Galaxy
SCIENCE FICTION

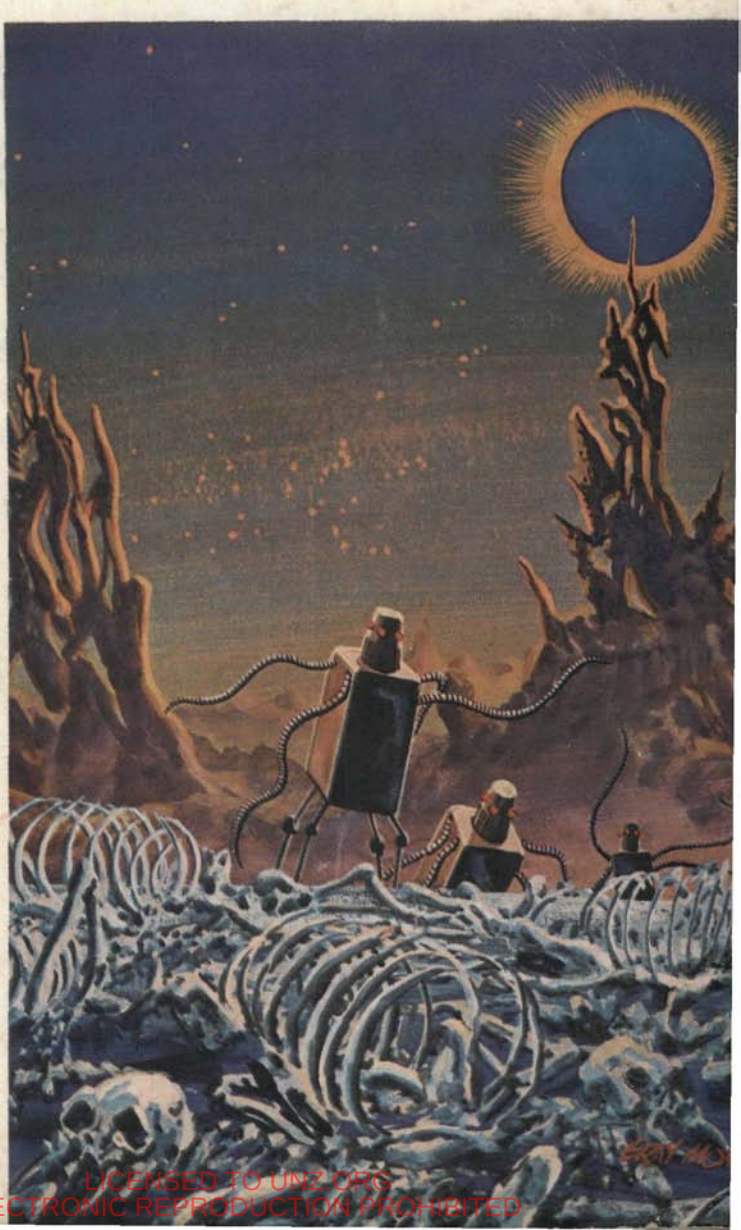
June 1967
60¢

TO OUTLIVE ETERNITY
by
Poul Anderson

THE ADULTS
by
Larry Niven

THE MAN WHO LOVED THE FAIOLI
by
Roger Zelazny

LATEST WORD ON ATLANTIS
by
Willy Ley



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MOON MAP PUZZLE

Official Rand McNally Map taken from actual photos of the moon. This circular Map Puzzle shows mountains, craters, seas, basins and valleys, with frame containing information about eclipses, tides, and seasons. Map when completed 21¼" x 14¼". Made of heavy cardboard and diecut.

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Galaxy
MAGAZINE

ALL STORIES NEW

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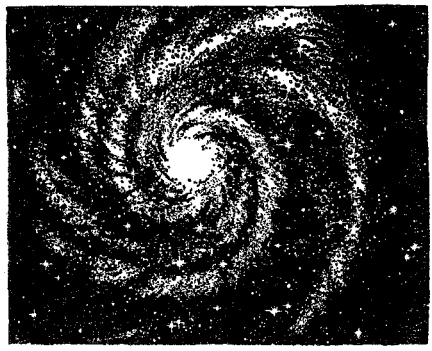

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THE DISMAL SCIENCE

"The dismal science" is what Robert Theobald (that's the *economist,* Robert Theobald) calls economics . . . because, he says, economics is properly the study of the allocation of scarce resources, its basic principles decided when things like the world supply of food and the world supply of people to eat it were considered fixed (in a stable proportion of slightly more people than there was food to feed them), and now we know ways of making things abundant.

We hear a lot of this dismal science, from some pretty dismal scientists. "Let's give up the space race so we can put the money into a cure for cancer." "We can't afford a war on poverty while we're fighting a war in Vietnam." Etc. These are things you hear from people who consider themselves rational and authoritative (well, that's a tautology; it would have been enough to say "from people"), and if you ask why, they reply crushingly, "It's economically impossible to do both!"

Fact is, it isn't . . . and if it were, it would be irrelevant.

At this moment in time there is a great deal of abundance in the world, particularly in the United States; and if we don't breed ourselves into squalor, there's every chance that there will soon be more. Abundantly more. It may be true, in a narrow budgetary sense, that we can't "afford" some of the things we do, but, as Harold Ur[illegible] points out in a recent *Bulletin of the Atomic Scientists,* the Egyptians couldn't "afford" to build the Pyramids and the Middle Ages certainly couldn't "afford" building their breathtaking cathedrals — but if they hadn't gone ahead and built them anyway, all of us coming later would have been a little the poorer for the lack of them.

And, of course, the way in which the arguments would be irrelevant, even if true, lies in the fact that the sort of resources used in one project have little application to the needs of another. Taking a spacecraft-building project away from McDonnel Aviation wouldn't free one scientist or one machine for use in the biochemistry labs. All that is diverted is that abstraction (at least its an abstraction in macroscopic, governmental terms) called money. But there is not any such thing as a fixed, scarce resource of money. There

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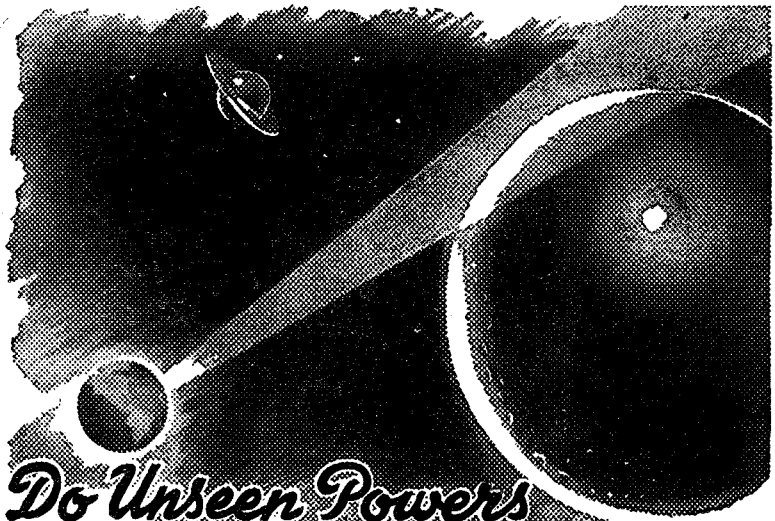

Do Unseen Powers Direct Our Lives?

ARE the tales of strange human powers false? Can the mysterious feats performed by the mystics of the Orient be explained away as only illusions? Is there an intangible bond with the universe beyond which draws mankind on? Does a mighty Cosmic intelligence from the reaches of space ebb and flow through the deep recesses of the mind, forming a river of wisdom which can carry men and women to the heights of personal achievement?

Have You Had These Experiences?

. . . that unmistakable feeling that you have taken the wrong course of action, that you have violated some inner, unexpressed, better judgement? The sudden realization that the silent whisperings of self are cautioning you to keep your own counsel—not to speak words on the tip of your tongue in the presence of another. That something which pushes you forward when you hesitate, or restrains you when you are apt to make a wrong move.

These urges are the subtle *influence* which when understood and directed has made thousands of men and women masters of their lives. There IS a source of intelligence within you as natural as your senses of sight and hearing, and more dependable, which you are NOT using now! Challenge this statement! Dare the Rosicrucians to reveal the functions of this Cosmic mind and its great possibilities to you.

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Take this infinite power into your partnership. You can use it in a rational and practical way without interference with your religious beliefs or personal affairs. The Rosicrucians, a world-wide philosophical movement, *invite you* to write today for your *Free* copy of the fascinating book, "The Mastery of Life" which explains further. Address your request to Scribe **N.C.O.**

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is whatever quantity of money a stable government elects to issue. The stabler the government, the less chancy the printing of extra currency issues becomes; and in the long run the stablest governments are probably those which do the most things that their citizens want.

Oh, there's no doubt an upper limit *somewhere* to what can be done. But it's doubtful that we're very near it. Not as long as there is a single man unemployed or underemployed, or a single machine not operated at full capacity, anyway.

So the dismal science is for dismal people. If it's worth our while to put men in space, we can put men in space; if it's worth our while to build a thousand new hospitals, we can build a thousand new hospitals — *and* fight poverty and N. Vietnamese, *and* fund cancer research.

Of course, if you would like to see a national budget in balance, for some reason of artistic principle, say, or because you just like things nice and tidy, you might want to cut out some items to make room for others.

We have a suggestion on where some good cuts might be made — and this is a *Galaxy* first; we've never seen this suggestion made by anyone before, and yet it seems to us so natural.

Where to cut the United States national budget? Why, in the second biggest item it contains: interest on the national debt.

Did you ever stop to think of why governments borrow money from their own people? Not because it increases the supply of money available to them; remember, they make the supply themselves. Not because they're afraid the oil company will halt fuel for the President's jet because of non-payment.

They borrow the money *only because they don't want it spent by the people they borrow it from.* Why don't they want it spent? Because that would be inflationary. In short, they pay a bribe to prevent inflation to such an extent that the bribe itself, the interest payment, reaches such staggering proportions that it becomes the second biggest item in the government's own balance sheet . . . and thus itself becomes inflationary.

Now, there's where *real* economy in government spending is possible. But we don't think it will come about, we must admit.

It will fail for lack of public support. Oh, some people might vote for it, given a chance. But we guarantee that none of them will be the people who now so passionately demand economy in government spending . . . .

—THE EDITOR

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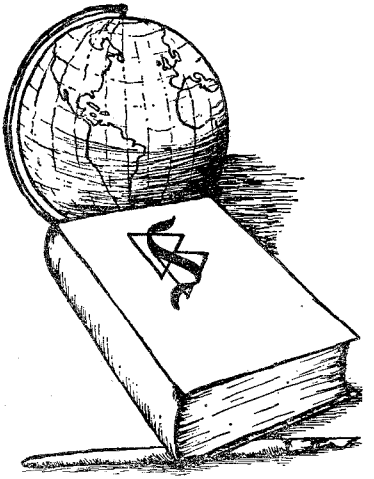

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FIRST OF TWO PARTS

TO OUTLIVE ETERNITY

by POUL ANDERSON

Illustrated by GAUGHAN

They were doomed to roam space through all eternity, while the world of men died behind them!

I

Leonora Christine was in the tenth year of her journey when grief came upon her.

An outside watcher, quiescent with respect to the stars, might have seen the thing before she did; for at her speed she must need to run half blind. Even without better instrumental capabilities, he would have known of the disaster a few weeks ahead. But he would have had no way to cry his warning, and it could not have helped her.

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And there was no watcher anyhow: only night, bestrewn with multitudinous cold points that were suns, the frosty cataract of the Milky Way and the rare phantom glimmer of a nebula or a sister galaxy. Nine light-years from Sol, the ship was illimitably alone.

An automatic alarm roused Captain Telander. As he struggled upward from sleep, First Mate Lindgren's voice followed: "*Kors i Herrens namn!*" The horror in it jerked him fully awake. He didn't stop to use the intercom; he left his cabin and ran toward the command bridge. Nor would he have stopped to dress. They didn't trouble much with uniforms, and some of the people aboard were ceasing to trouble with clothes.

But as it happened, he was clad. Lulled by the sameness of nine and a half years — even in ship's time, more than one year — he had been reading a microtaped novel and had dozed off in his chair. And then jaws of the universe snapped shut.

The corridor throbbed faintly around him, an endless pulse of driving energies. Ventilators gusted fresh air in his face, and it was subtly scented with clover. Murals hid metal and plastic with scenes of forest around a sunlit lake. The deck covering was green and springy as grass. But always the ship whispered and shivered, always one remembered the deeps outside.

Lars Telander flung himself up the companionway and into the bridge compartment. Ingrid Lindgren stood near the viewscope. It was not what counted; however massive and sophisticated, it was almost a toy. What truth could tell was in the instruments which glittered across the entire forward bulkhead. But her eyes would not leave it.

The captain brushed past her. The warning which had caused him to be summoned was still blazoned on a screen linked to the primary computer. He read. The breath sucked in between his teeth. As he stood, a slot opened with a click and extruded a printout. He snatched it. His gaze whipped across letters and figures. Quantification — decimal-point detail, after more data had come in and more calculation had been done — the basic Mene, Mene stood unchanged on the screen.

He stabbed the general alarm button. Sirens wailed; echoes went ringing down the corridors. On the intercom he ordered all hands not on duty to report to commons with the passengers. After a moment, harshly, he added that channels would be open so that those people standing watch could also get the news.

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"But what are we going to do?" Lindgren cried.

"Very little, I fear." The captain went to the viewscope. "Is anything visible in this?"

"Barely. I think. Fourth quadrant." She clenched her fists and turned from him.

He took for granted that she meant the eyepiece for dead ahead and peered into that. At high magnification, space leaped at him. The scene was somewhat blurred and distorted. Optical circuits did not compensate perfectly for the aberration and Doppler effect experienced when one crowded the speed of light. But he saw starpoints, diamond, amethyst, ruby, topaz, emerald, a Fafnir's hoard. Near the center burned the one called Beta Virginis, whither they were bound, thirty-three years after they said farewell to Earth. It should have looked very like the sun of home, but something of spectral shift remained to tinge it ice blue. And, yes, on the verge of human vision . . . that wisp? That smoky cloudlet, perhaps to wipe out this ship and these fifty human lives?

Noise broke in on his concentration, shouts, footfalls, the sounds of fear. He straightened. "I had better go aft," he said without tone. Lindgren moved to join him. "No, keep the bridge."

"Why?" Her temper stretched thin and broke. "Regulations?"

"Yes," he nodded. "You have not yet been relieved." A smile of sorts touched his lean face. "Unless you believe in God, regulations are now the only comfort we have."

II

There was no space to spare in space. Every cubic centimeter inside the hull must work. But human beings intelligent and sensitive enough to adventure out here would have gone crazy without some room and privacy. Thus each of the twenty-five cabins could be divided into two cubicles if the pair who occupied it chose. And commons was more than a place for meals and meetings. The largest section was ball court and gymnasium. Offside rooms held tiny bowers, gardens, hobby shops, a swimming pool. Along one bulkhead stood three dream booths.

In this moment, however, none of these things had any more meaning than did drapes or murals or the bright casual clothes of the gathered people. They had not taken time to set out chairs. Everyone stood. Every eye locked onto Telander as he mounted the dais. Nobody stirred save to breathe, but sweat glistened on faces and could be smelled. The murmur of the ship seemed somehow to have grown louder.

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The captain hesitated for a moment. They were from so many nations, those men and women — Europe, Asia, America, Africa, Luna. Of course they all knew Swedish; like every other extrasolar expedition, this one went in a Control Authority ship. But some did not know it well. For scientists, particularly, English and Russian remained the chief international tongues. Since Telander happened to be more at ease in the former, he sighed and fell back on it.

"Ladies and gentlemen, I have just gotten grave news. Let me say immediately that our prospects of survival are not in the least hopeless, as far as can be judged from present data and computations. But we are in trouble. The risk was not unforseen, but by its nature is one that cannot be provided against, at any rate in the present rather early stage of Bussard drive technology — "

"Get to the point, God damn it!" Telander couldn't see who shouted out of the pack, but knew that voice: Williams, the short, cocky North American chemist.

"Quiet, you," said Constable Reymont. Unlike most of them, who stood with male and female hands clutched together, he was alone, a little apart from the rest: a stocky, dark, hard-featured man with a scar seaming his brow. He wore a drab gray coverall and had pinned on his badge of authority.

"You can't — " Someone must have nudged Williams, for he spluttered into silence.

Telander's gaunt body shifted nervously from foot to foot. "Instruments have . . . have detected an obstacle. A small nebula. Extremely small, a mere clot of dust and gas, probably less than a thousand million kilometers across. It is traveling at an abnormal velocity. Perhaps it is the remnant of a larger thing cast out by a supernova, a remnant still held together by hydromagnetic forces. Or perhaps it is a proto-star. I do not know. The fact is, we are going to strike it. In about twenty-four hours, ship's time. What will happen then, I do not know either. With luck, we can ride out the impact and not suffer serious damage. Otherwise . . . well, we knew this journey would have its hazards."

He heard indrawn breaths, like his own on the bridge, and saw eyes go white-rimmed, mouths mutter, fingers trace signs in the air. Quickly, he went on: "We cannot do much to prepare. A little, ah, battening down, yes; but in general, the ship is as taut as possible already. When

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the moment approaches, most of you will be ordered into shock harness, and everyone will wear space armor. But — the meeting is now open for discussion." Williams's hand rocketed past the shoulder of tall M'Botu.

"Yes?"

One could imagine the red-faced indignation. "Sir! An unmanned probe did make the trip to Beta Virginis first, did it not? It did radio back an assurance that this route was free of danger. Did it not? Well, then, who is responsible for our blundering into this muck?"

Voices lifted toward a babble. "Quiet!" Charles Reymont called. He didn't speak loud, but he pushed the sound from his lungs in such a way that it struck home. Several resentful glances were cast at him, but the talkers came to order.

"I thought I had explained," Telander said. "The cloud is small, nonluminous, undectable at any great distance. It has a high velocity. Thus, even if the robot carrier had taken our identical path, the nebulina would have been well offside at the time — more than fifty years ago, remember. Furthermore, we can be quite certain the robot did not go exactly as we are going. Quite apart from the relative motions of the stars, the distance between Sol and Beta Virginis is thirty-two light-years. That is greater than our poor minds can picture. The slightest variation in the curves taken from star to star means a difference of many astronomical units in the middle."

"This thing couldn't have been foreseen," Reymont added. "The odds were against our running into it. But somebody has to draw the long odds now and then."

Telander stiffened. "I did not recognize you, Constable," he said.

Reymont flushed. "Captain, I was trying to expedite matters, so some clotbrains won't keep you there explaining the obvious till we smash."

"No insults to shipmates, Constable. And kindly wait to be recognized before you speak."

"I beg the captain's pardon." Reymont folded his arms and blanked his features.

Telander said with care: "Please do not be afraid to ask questions, however elementary they may seem. You are all supposed to be educated in the theory, at least, of interstellar cosmonautics. But I, whose profession this is, know how strange the paradoxes are, how hard to keep straight in one's mind. Best if everyone understands, as well as may be, exactly what we face . . . Professor Glassgold?"

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The molecular biologist lowered her hand and said timidly, almost too low to hear: "Can't we — I mean — nebular objects like that, they are hard vacuums by ordinary standards. Aren't they? And we, we are not only traveling just under the speed of light . . . we are gaining more speed every second. And so more mass. Our mass right now, as far as the rest of the universe is concerned, must be, well, several hundred thousand tons. Which is enormous for a spaceship, even this big a spaceship, isn't it? So why can we not smash right on through? Why should we notice a bit of dust and gas?"

"A good point," Telander said, "and if we are lucky, that is more or less what will happen. Not entirely, though. Remember, we *are* going unbelievably fast, so fast that we can actually use the hydrogen of space for fuel and exhaust. So if we run into a concentration of matter perhaps a hundred times as dense, at this speed, *ja*, we must hope that our forcefields can handle it, and the material components endure the stresses. Engineering extrapolations suggest we will not suffer grave damage. But those are mere extrapolations. There has been no chance as yet to test them. We are, after all, in a pioneering era . . . Dr. Iwamoto?"

"S-s-ss*t!* I presume we have no possibility of avoidances? One day ship's time is maybe one month cosmic time, so? We have not time to go around this nebu — nebulina?"

"No, I fear not. We perceive ourselves as accelerating at a steady five gravities. At least, our instruments do, if not our bodies." Telander paused. His mouth twisted. "Excuse me. I maunder. But I want to make certain that everyone is quite clear about the facts. In terms of the outside universe, our acceleration is not constant, but steadily decreasing. Therefore we cannot change course fast. Even a full vector normal to our velocity would not get us far enough aside before the encounter. Ah, Engineer Fedoroff?"

"Might it help if we decelerated? We must keep one or another mode operative at all times, to be sure, but I should think that deceleration now would soften the collision."

"The computer has not made any recommendations yet. Probably the information is insufficient. In any event, the difference would be slight, a few hundred kilometers per second, out of almost three hundred thousand. No, regardless of what we do, we have no choice except to — ah —"

"Bull through," Reymont murmured. Telander heard and cast

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him a look of annoyance. Reymont didn't seem to mind.

As discussion progressed, though he grew increasingly tense, his eyes flickered from one speaker to the next and the lines between lips and nostrils deepened in his face. When at last Telander said, "Dismissed," the constable pushed almost brutally through the uncertain milling of the rest and plucked the captain's sleeve.

"I think we had better hold a private talk, sir." His Swedish, like his English, was fluent, but marred by a choppy accent. He had been born and raised in the turbulent sublevels of Polyugorsk and somehow made his way to Mars (Telander was sure the means had been devious), where he fought with the Zebras during the troubles. Later he went homeward as far as Luna, joined the Rescue Corps and soon rose to colonel's rank. Telander knew Reymont had done much to organize the police branch of his service along more efficient lines than before, but nonetheless doubted the Authority's wisdom in offering him a berth on this expedition.

The captain said with a chill, "Now is hardly the time to deny anyone access to information, Constable."

"Oh, call our working by ourselves politeness, not to antagonize people," Reymont answered impatiently.

Telander shrugged. "Come with me to the bridge, then. I have no time for special conferences."

Williams and a couple of others seemed to feel differently, but Reymont drove them off with a glare and a bark. Telander must perforce smile a bit as he left the commons. "You do have your uses," he confessed.

"As a parliamentary hatchet man? I think . . . I am afraid . . . there will be more call on me than that," Reymont said.

"Well, conceivably at Beta Virginis. Dubious, though. The robot sent back no indication of intelligent life on the one seemingly Earthlike planet. At most, we might encounter a few savages armed with spears — who would probably not be hostile to us. The dangers are subtler."

Reymont flushed as before. "I'm sorry," Telander added in haste. "I was thinking aloud. No intention of talking to you like a three-year-old. Of course you know all this. I am not entirely convinced by your claim that a degree of military-type discipline may be essential to surviving hazards like possible diseases. But we shall see. Certainly a specialist in rescue and disaster control is going to be welcome."

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"You maunder again, Captain," Reymont said. "You're pretty badly shaken by what we're driving into. I believe our chances are not quite as good as you pretended. Right?"

Telander looked around. The corridor was empty, but still he lowered his voice. "I simply don't know. No Bussard ship has been tested under conditions like those ahead of us. Obviously! We will either get through in reasonable shape or we will die, a quick clean death. I saw no reason to make worse what hours remain for our people, by dwelling on that last."

Reymont scowled. "You overlook a third possibility. We may survive, but in *bad* shape."

"How the devil could we?"

"Hard to say. Perhaps we'll take such a buffeting that people are killed. Key personnel, whom we can ill afford to lose — not that fifty is any great number against a world. In such case, however . . ." Reymont brooded a while. Footsteps thudded beneath the mumble of energies. "They reacted well, on the whole," he said. "They were picked for courage and coolness. In a few instances, though, the picking was not very successful. Suppose we do find ourselves, let's say, disabled. What then? How long will morale last, or sanity itself? I want to be prepared to maintain discipline."

"In that connection," Telander said, cold once more, "please remember that you act under my orders and subject to the articles of the expedition."

"Damnation!" Reymont exploded. "What do you take me for? Some would-be Mao? I'm requesting your authority to deputize a few trustworthy men and make them quietly ready for emergencies. I'll issue them weapons, but stunner type. If nothing goes wrong — or if something does but everybody behaves himself — what have we lost?"

"Trust in each other," Telander said.

They had come to the bridge. Reymont entered with his companion, arguing further. Telander made a chopping gesture to shut him up and strode toward the computer. "Anything new?" he asked.

"Yes. The instruments have begun to draw a density map," Lindgren said. She had started on seeing Reymont and now spoke mechanically, not looking at him. Under the short fair hair her face went red and then white. "It is recommended —" She pointed to the screen and the latest printout.

Telander studied them. "Hm. To pass through a less dense region, we should generate a lateral

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vector by using the Number Three and Four decelerators in conjunction with the entire accelerator system . . . A procedure with dangers of its own. This calls for discussion." He flipped the intercom controls and spoke briefly to the chief engineer and the navigation officer. "In the plotting room. On the double!"

He turned to go. "Captain — " Reymont attempted.

"Not now," Telander said, already on his way.

"But — "

"The answer is no." Telander vanished out the door.

Reymont stood a moment, head lowered and shoulders hunched as if to charge. But he had nowhere to go. Ingrid Lindgren regarded him for a time that shivered — a minute or more, ship's chronology, which was half an hour in the lives of the stars and planets — before she said, quite softly: "What did you want of him?"

"Oh." Reymont turned about. "His order to recruit a small police reserve. He gave me something stupid about my not trusting my fellows."

Their eyes locked. "And not letting them alone in what may be their final hours," she said.

"I know. There's little for them to do, they think, except wait. So they'll spend the time . . . talking; reading favorite poems; eating favorite foods, with maybe a wine ration for this occasion; playing music, opera and ballet and theater tapes, or in some cases, something livelier, maybe bawdier; making love. Especially making love." Reymont spat out his words.

"Is that so bad?" she asked. "If we must go out, shouldn't we do so in a civilized, decent, life-loving way?"

"By being a trifle less civilized, *et cetera,* we might increase our chance of not going out," Reymont snapped.

She bridled. "Are you that afraid to die?"

Reymont shrugged. "No. But I like to live."

"I wonder. You know why I left you. Not your crudeness by itself. You can't help your background. But your unwillingness to do anything about overcoming it. Your caveman jealousy, for instance."

"I do have a poor man's primitive morality," he said. "Frankly, having seen what education and culture make people into, I'm less and less interested in acquiring them."

The spirit gave way in her. Her eyes blurred, she reached out to touch him and said, "Oh, Carl, are we going to fight the same old fight over again, now on perhaps our last day alive?" He

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stood rigid. She went on, fast: "I admired you. I wanted you to be my life's partner, the father of my children — on Beta Three if we find we really can settle there; on Earth if we have to return. But we're so alone, here between the stars! We have to take what comfort we can, and give it, or we may not survive."

"Unless we can control our own emotions," he said.

"Do you think there was any emotion . . . anything but friendship, and pity, and — and a wish to make sure he did *not* fall seriously, in love with me — with Harry? Why, he's hardly more than a boy! And the articles say, in so many words, we can't have formal marriages en route, because we're already too constricted and deprived in every other way — "

"So you and I terminated a relationship which had become unsatisfactory," Reymont said.

"You've found plenty of others since!" she flared.

"For a week or two. So have you. No matter. As you have said, we're both free individuals. Why should I carry a grudge, just because it turned out to be impossible to keep a social relationship with you? I certainly don't want to spoil your fun after you go off watch."

Knuckles stood white on her fists. "What will you be doing?"

"Since I wasn't given authority to deputize," Reymont said, "I'll have to ask for volunteers."

"You can't!"

"I wasn't actually forbidden. I'll only ask a few men, in private, who are likely to agree. Are you going to tell the captain?"

She turned from him. "No," she said. "Please go away."

His boots clacked off down the companion.

III

The ship drove on.

She was not small. This hull must house fifty human beings, with every life-support apparatus required in the ultimate hostility which is outer space. It must carry closed-ecology food, air, and waste-disposal systems, tools, machinery, supplies, spare parts, instruments, references, a pair of auxiliary craft capable of ferrying to and from a planetary surface. For the expedition was not merely going for a look: not at such cost in resources, labor, skill, dreams and years.

At a minimum, these people would spend half a decade in the Beta Virginis System, learning what little they could. But if the third planet which the robot probe was now in orbit, from which it beamed its signals to an Earth that received them a gen-

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eration later . . . if that planet really was habitable, the expedition never would come home, not even the professional spacemen. They would live out their lives, and belike their children and grandchildren would too, exploring its manifold mysteries and flashing their discoveries to the hungry minds on Earth. For any planet is a *world* infinitely complex, infinitely varied. And this world seemed to be so homelike that the strangenesses it must hold would be yet the more vivid.

The folk of *Leonora Christine* were quite frank in their hope that they could indeed establish a true scientific base. They often speculated that their descendants might have no desire whatsoever to go back: that Beta Three might evolve from base to colony to New Earth to jumping-off place for the next starward leap. For there was no other way by which man could travel far in the galaxy.

Consider: A single light-year is an inconceivable abyss. Denumerable, but inconceivable. At an ordinary speed — say, a good pace for a car in megalopolitan traffic, two kilometers per minute — one would need almost nine million years to cross it. And in Sol's neighborhood, the stars averaged some nine light-years apart. Beta Virginis was thirty-two distant.

Nevertheless, such spaces could be conquered. A ship accelerating continuously at one gravity would have traveled half a light-year in less than one year of time. And she would be moving very near the ultimate velocity, 300,000 kilometers per second. Thereafter she could, so to speak, coast along at one light-year per year: until, within half a light-year of journey's end, she began her deceleration.

But that is an incomplete picture. It takes no account of relativity. Precisely because there is an absolute limiting speed (at which light travels in vacuo; likewise neutrinos) there is an interdependence of space, time, mass, and energy. The tau factor enters the equations.

An outside observer, "at rest," measures the mass of the spaceship. The result he gets is the mass that the ship would have, measured when she was not moving with respect to him, divided by tau. Thus, the faster the ship moves, the more massive she is, as regards the universe at large. She gets this extra mass from the sheer kinetic energy of motion; $e = mc^2$.

Furthermore, if the "stationary" observer could compare the ship's clocks with his own, he would notice a difference. The interlude between two events (such as the birth and the death

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of man) measured aboard the ship where they take place, is equal to the interlude which the outsider measures — also divided by tau. One might say that time moves proportionately slower on a starship.

Lengths, however, shrink; the outsider sees the ship shortened in the direction of motion by the factor tau.

But measurements made on shipboard are every bit as valid as those made outside. To a crewman, looking forth at the universe, the stars are compressed and have gained in mass; the distances between them have shriveled; they shine, they evolve at a strangely reduced rate. *He* has not changed, not with respect to himself. How could he?

Yet the picture is more complicated even than this. One must bear in mind that the ship has, in fact, been accelerated and will be decelerated in relation to the general background of the cosmos. This takes the whole problem out of special and into general relativity. The ship-star situation is not really symmetrical. When velocities match once again and reunion takes place, the star will have passed through a longer time than the ship did.

So to reach other suns in a reasonable portion of your life expectancy — Accelerate continuously, right up to the interstellar midpoint, when you make turnover and start slowing down again. You are limited by the speed of light, which you can never quite reach. But you are not limited in how close you can approach that speed. And thus you have no limit on your tau factor.

Practical problems arise. Where is the mass-energy to do this coming from? It would be useful to run tau up to 100. You could cross a light-century in a single year of your own experience. (Though of course you could never regain the century which had passed in the outside universe, during which your friends grew old and died.) But this would also, inevitably, involve a hundredfold increase of mass. Each ton of ship that left the Solar System must become a hundred tons. The thought of carrying enough fuel along from the start is ludicrous.

But who says we must do so? Fuel and reaction mass are there in space! It is pervaded with hydrogen. True, the concentration is not great by ordinary standards — about one atom per cubic centimeter in the galactic vicinity of Sol. But this makes thirty billion atoms per second, striking every square centimeter of the ship's cross-section, when she approaches light speed. The

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energies are unthinkable. Megaroentgens per hour of hard radiation would be released by impact; and less than a thousand *r* within an hour are fatal. No material shielding would help. Even supposing it impossibly thick to start with, it would soon be eroded away.

However, in the days of *Leonora Christine* non-material means were available: magnetohydrodynamic fields, whose pulses reached forth across millions of kilometers to seize atoms by their dipoles and control their streaming. These fields did not serve passively, as mere armor. They fed the gas into a ramjet system — if that phrase may be used for the starlike violence of an ongoing thermonuclear reaction, and for the hurricane of plasma cast aft to push the ship nearer and nearer ultimate c.

The forces involved were not just enormous; of necessity, they were precise. They were, indeed, so precise that they could be used within the hull as well as outside. They could operate on the asymmetries of atoms and molecules to produce an acceleration uniform with that of the basic field-generator complex itself. Rather, that uniformity was minus one terrestrial gravity. In effect, weight remained constant aboard, no matter how high the rate at which the ship gained speed.

This cushioning was only possible at relativistic velocities. While tau was small, atoms were insufficiently massive, skittish. But as they approached c, they grew heavier—not to themselves, of course, but to everything else — and so the interplay of fields between ship and universe could establish a stable configuration.

Thus the flight pattern was: A year at one gee, to get near light speed. Switchover to cushioned, high-acceleration mode. The bulk of the journey would be covered in a few months of crew time. At the end, another year must pass while the ship braked to interplanetary velocities and closed in on her goal.

And so, because velocity was never constant, the "twin paradox" did not arise. Tau was no static multiplying factor; it was dynamic; its work on mass, space and time could be observed as a fundamental thing, creating a forever different relationship between men and the universe through which they traveled.

The ship was not small. Yet she was the barest glint of metal, in that vast immaterial web of forces which surrounded and permeated her. She herself no longer generated them. She had initiated the process, when she reached minimum ram-jet speed; but now it was too huge, too swift, it could

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only be created and sustained by itself. The primary reactor, the venturi tubes, the entire system which thrust her, was not contained in the hull. Most of it was not material at all, but a resultant of cosmic-scale forces. The ship's control devices, under computer direction, were not remotely analogous to autopilots. They were more like catalysts, which judiciously used could affect the course of those appalling reactions, could build them up, in time slow them down and snuff them out — but not fast.

A month of cosmic time, a day of interior time, was too little to swerve around the suddenly perceived nebular pit. Only a few things could be done. Then nothing remained except to wait and see if she survived.

She struck.

It was too swiftly changing a pattern of assault too great. The delicate dance of energies which balanced out acceleration pressures could not be continued. The computer directed a circuit to break, shutting off that particular system, before positive feedback wrecked it.

Spacesuited, strapped into safety cocoons, alone with whatever memory could be kept of a farewell handclasp or kiss, the folk of *Leonora Christine* felt weight shift and change. A troll sat on each chest and choked each throat, darkness went raggedly before eyes. Sweat started forth, hearts slugged, pulses brawled. That noise was answered by the ship, a metal groan, a rip and a crash. She was not meant to endure stresses like these. Her safety factors were small; mass was too precious for anything else. And she rammed hydrogen atoms swollen to the heaviness of silicon or phosphorous, dust particles bloated into meteoroids. Velocity had flattened the cloud longitudinally; it was thin — she tore through in seconds. But by that same token, the nebulina was no longer a cloud to her. It was a well-nigh solid wall.

Her outside force-screens absorbed the battering, flung matter aside in turbulent streams, protected the hull from everything except slowdown drag. But reaction was inevitable, on the fields themselves and thus on the devices which, borne outside, produced and controlled them. Frameworks crumpled. Electronic elements fused. Cryogenic liquids boiled from shattered containers

So one of the thermonuclear fires went out.

The stars saw the event differently. They saw a tenuous murky mist struck by an object incredibly swift and dense. Hydromagnetic forces snatched at atoms,

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whirled them about, ionized them, battered them together. The object was encompassed in in a meteor blaze. During the hour or so of its passage, it drilled a tunnel through the nebulina. That tunnel was wider than the drill, because a shock wave spread outward — and outward and outward and outward, destroying what stability there had been, casting substance forth in gouts and tatters.

A sun and planets had been in embryo here. Now they would never form.

The invader passed. It had not lost much speed. Accelerating once more, it dwindled away toward remoter stars.

IV

Reymont struggled back to consciousness. He could not have been darkened long. Could he? Noise had ceased. Was he deafened? Had the air puffed through some hole into space? Were the screens down, had gamma-colored death already sleeted through him?

No. When he listened, he made out the familiar low beat of energies. Perhaps it even penetrated him a bit louder than formerely. Perhaps the deck's subliminal shiver had quickened a trifle. The hull structure must be loosened by what it had undergone. Yet a fluoropanel shone steadily in his vision. The shadow of his cocoon frame was cast on a bulkhead and had the soft edges which betokened ample air. Weight had returned to a single gee. "To hell with melodrama," he heard himself say. His voice sounded far-off, a stranger's. "We got work."

He fumbled with his harness. Muscles throbbed and ached. A trickle of blood ran over his mouth, tasting salty. Or was it sweat? *Nichevo.* He was functional. He crawled free, opened his helmet, sniffed — slight smell of scorch and ozone, nothing serious — and gusted one deep sigh before shedding his spacesuit.

His cabin half was a mess. The brackets holding his meager personal belongings on their shelves had given way and let everything smash across the deck. He found his stunner beneath his regular bunk and strapped it on before sliding aside the panel which cut off the other section.

Chi-yuen Ai-ling's slight form lay inert. Reymont unlatched her faceplate and listened carefully. Her breathing was normal, no wheeze or gurgle to suggest injured lungs. Probably she had just fainted. He left her. Others might need help worse. No strong sentiment was between him and her anyway. After breaking up with Ingrid Lind-

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gren and playing the field a bit, he'd moved in with Chi-yuen on a basis of mutual convenience. She didn't want to appear standoffish, but her consuming interest was in developing some ideas about planetology which the probe data from their goal had suggested to her. A steady relationship with one man kept the rest from making well-intentioned advances. Similarly, he wanted to retire from close human contacts without being obvious about it. Nobody had to know that the panel across this cabin was usually drawn shut.

Ivan Fedoroff was already out in the corridor. "How goes it?" Reymont hailed.

"I am on my way to see," the engineer flung back and ran.

"But—" Reymont cut off his words and pushed into Johann Freiwald's section. The machinist sat slumped on his bunk. "*Raus mit dir,*" Reymont said. "And don't forget your gun."

"I have a headache like carpenters in my skull," Freiwald protested.

"You offered to help me. I thought you were a man."

Freiwald cast Reymont a resentful glance, but got into motion. They were busy for the next hour. *Leonora Christine*'s crew was busier yet, inspecting, measuring, conferring low-voiced and apart. But that, at least, gave them little time to feel pain or let terror grow. The scientist majority had no such anodyne. From the fact that they were alive and the ship apparently working as before, they might have drawn cheer . . . only why didn't Captain Telander announce anything? Reymont bullied them into commons, started some making coffee and others attending to the most badly bruised. At last he went alone to the command bridge.

The door was closed. He knocked. Fedoroff's voice boomed, "No admittance. Please wait for the captain to address you."

"This is the constable," Reymont said.

"Well? Haven't you anything better to do than meddle?" Lindgren called.

"I've assembled your passengers," Reymont said. "They're getting over being stunned. They're beginning to realize something isn't quite right. Not knowing what, in their present condition, will crack them open. Maybe we won't be able to glue the pieces back together."

"Go tell them an announcement will be made very soon," Telander said without steadiness.

"You tell them. The intercom's working, isn't it? Tell them you're making exact evaluations of damage, so you can lay out

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a program for repair as soon as possible. But first let me in to help find words for announcing the disaster."

The door flew wide. Fedoroff grabbed Reymont's arm and tried to pull him through. Reymont yanked free, an expert movement. His other hand smacked stingingly edge-on across the engineer's wrist. "Don't do that," he said. "Not ever." He stepped into the bridge and closed the door himself.

Fedoroff growled and doubled his fists. Lindgren hurried to him and laid a hand on his shoulder. "No, Ivan," she begged. "Please." The Russian subsided, stiffly. They glowered at him in the thrumming stillness: captain, mate, engineer, second engineer, navigation officer, biosystems chief. He looked past them. The console had suffered, some panels twisted, some meters torn loose. "Is that the trouble?" he asked, pointing.

"No," said Boudreau, the navigator. "Instruments can be replaced."

Reymont sought the viewscope. The compensator circuits were also dead. He put his head into the hood of the electronic periscope.

A hemispheric simulacrum sprang from the darkness at him: uncompensated, the view he would actually have seen from outside on the hull. At light speed, aberration distorted the sky. The stars were crowded forward, streaming thinly amidships; and because of Doppler effect they shone steel blue, violet, X-ray. Aft the patterns approached what had once been familiar — but not very closely, and those stars were reddened, like dying embers, as if time were snuffing them out. Reymont shuddered a little and drew his head back into the comforting smallness of the bridge.

"Well?" he said.

"The decelerator system —" Telander swallowed. "We cannot stop."

Reymont's face went altogether expressionless. "Go on," he said.

Fedoroff spoke. His words came flat with fury. "You will recall, I hope, we had activated the decelerators, two of them anyhow, but they belong to an integrated system. Which has to be a separate system from the accelerators, since to slow down we do not push gas through a ram jet but reverse its vector."

Reymont did not stir at the insult. Lindgren caught her breath. After a moment Fedoroff sagged.

"Well," he said tiredly, "the accelerators were operating too. I imagine, on that account, their

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field strength protected them. But the decelerators — out. Wrecked."

"How?"

"We can only determine that the thermonuclear core is extinguished. In the nature of the case, the decelerators must have been subject to greater stress than the accelerators. I suppose that those forces, reacting through the hydromagnetic fields, broke apart the material assembly which they contain. That assembly, you know, generates and maintains the magnetic bottle which itself contains the ongoing atomic reactions." Fedoroff looked at the deck. "No doubt we could repair the system if we could get at it," he muttered. "But no one can go near the reaction which powers the accelerator and live long enough to do any work. Nor could any remote-control robot we might build. Too much radiation for its circuits. And, of course, we cannot shut off the accelerator. That would mean shutting off the whole set of forcefields which *it* maintains. Hydrogen bombardment would kill everyone aboard within a minute."

"We have no directional control whatsoever?" Reymont asked, still without tone.

"Yes, yes, we do that. The accelerator pattern can be varied," Boudreau said. "It has four venturis, and we can damp down some — get a sidewise as well as forward vector — but don't you see, on any path we take, we must continue accelerating or we die."

"Accelerating forever," Telander said.

"At least, though," Lindgren whispered, "we can stay in the galaxy. Swing around and around its heart." Her gaze went to the viewscope, and they knew what she thought of: behind that curtain of blue stars, blackness, intergalactic void, an ultimate aloneness. "At least . . . we can grow old . . . with suns around us. Even if we can't ever touch a planet again."

Telander's features writhed. He cried, "How do I tell our people?"

"We have no hope," Reymont said. It was hardly a question.

"None," Fedoroff said.

"Oh, we can live out our lives," said Pereira. "The biosystems have triple protection. They are intact. We could actually increase their productivity. Do not fear hunger or thirst or suffocation. But I would not advise that we have children."

Lindgren said out of nightmare, staring at a bulkhead as if she could see through: "When the last of us dies — We must

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put in an automatic cutoff. The ship must not keep on running after our deaths. Let the radiation do what it will, let cosmic friction break her to bits and let the bits drift off into those millions of light-years . . . yonder."

"Why?" asked Reymont like a machine.

"Isn't it obvious? If we throw ourselves into a circular path . . . consuming hydrogen in our accelerator, always traveling faster, running tau up and up as the thousands of years pass . . . we get more massive. We could end by consuming the galaxy."

Telander laughed, a harsh little noise in his throat. "No. Not that," he said. "I have seen calculations. They were made in the early stages of discussing Bussard ships. Someone worried about getting out of control. But it isn't serious. A spacecraft, any human work, is too insignificant. Tau would have to become something like, well, shall we say ten to the twentieth power, before the ship's mass was equal to that of a very small star. And the odds are always astronomical against her colliding with anything more important than a nebula. Besides, the universe won't last so long. No, we are going to die. But the cosmos is safe from us."

"How long can we live?" Lindgren breathed. She cut Pereira off. "I don't mean in ship's time. If you say we can manage to die of old age, I believe you. But I think a year or two we will stop eating, or cut our throats, or agree to turn the accelerator off, or something."

"Not if I can help it," Reymont snapped.

She gave him a dreary look. "Do you mean you would continue — not just cut off from man, from living Earth, but from the whole universe?"

He regarded her steadily in return. One hand rested on his gun butt. "Don't you have that much guts?" he asked.

"But fifty years inside this flying hell!" she nearly screamed. "How many will that be outside?"

"Easy," Fedoroff said and took her by the shoulders. She clung to him and snatched after air.

Boudreau said, carefully dry: "The time relationship appears to be somewhat academic to us, *n'est-ce pas?* And it depends in any case on what course we take. If we let ourselves continue straight out into space, naturally we will enter a much thinner interstellar medium. The rate of increase of tau will be proportionately smaller than here, and get smaller as we move beyond this entire group of galaxies. On

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the other hand, if we stay within our own galaxy, if we try for a cyclical path taking us through the denser hydrogen concentrations, we could soon get a very large tau. We might see billions of years go by. That could be quite fascinating." His smile was forced. "And we have each other. A goodly company. I am with the constable. There are better ways to live, but also worse."

Lindgren hid her face against Fedoroff's breast. He held her with one arm, patted her awkwardly with the other hand. After a while (an hour or so in the history of the stars) she looked up again.

"I'm sorry," she gulped. "You're right. We do have each other." Her glance went from one to the next, ending at Reymont.

"But, but how shall I tell them?" Telander groaned.

"I suggest you do not," Reymont said. "Let the mate break the news."

"What?" Lindgren asked.

"You are a *simpatico* person," he said. "I remember."

She moved from Fedoroff's loosened grasp, a step toward Reymont. Abruptly the constable tautened. He stood for a second as if blind, before he whirled from her and confronted the navigator.

"Quick!" he exclaimed. "Do you know — "

"If you think I should — " Lindgren had begun to say.

"Not now," he interrupted. "Boudreau, come here! We have some figuring to do."

V

The silence went on and on. Ingrid Lindgren stared from the dais where she stood with Lars Telander, down at her people. They looked back at her. And not a one in that chamber could find words.

Hers had been well chosen. The truth was less savage in her voice than in any man's. But when she came to her planned midpoint — "We have lost Earth, lost Beta Three, lost the mankind we belonged to. We have

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left to us courage, love and, yes, hope" — she could not continue. She stood with lip caught between teeth, fingers twisted together, and the slow tears ran from her eyes.

Telander bestirred himself. "Ah . . . if you will be so good," he tried. "Kindly listen. A means does not exist . . ." The ship jeered at him in her tone of distant lightnings.

Glassgold broke. She did not weep loudly, but her very struggle to stop made the sound more dreadful. M'Botu, beside her, attempted consolation. He, though, had clamped such stoicism on

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himself that he might as well have been a robot. Iwamoto withdrew a little from them both, from them all, one could see how he pulled his soul into some nirvana with a lock on its door. Williams shook his fists at the overhead and raved. Another voice, female, started to keen. A woman considered the man with whom she had been keeping company, said, "You, for my whole life?" and stalked from him. He tried to follow her and bumped into a crewman who snarled and offered to fight if he didn't appologize. A seething went through the entire human mass.

"Listen to me," Telander called. "Please listen."

Reymont shook loose the arm which Chi-yuen Ai-ling clutched, in the first row, and jumped onto the dais. "You'll never bring them around that way," he warned *sotto voce*. "You've always worked with disciplined professionals. Let me handle these civilians." He turned on them. "Quiet, there!" Echoes bounced around his roar. "Shut your hatches. Act like adults for once. We haven't the personnel to change your diapers for you."

Williams yelped with resentment. M'Botu growled, rather more meaningfully. Reymont drew his stunner. "Hold your places!" He dropped his vocal volume, but everyone heard him as if he stood beside. "The first one to move gets knocked out. Afterward we'll court-martial him. I'm the constable of this expedition, and I intend to maintain order and effective cooperation." He grinned into their faces. "If you feel I exceed my authority, you're welcome to file a complaint with the appropriate bureau in Stockholm. But for now, you'll listen!"

He tongue-lashed them until their adrenals seemed to be active again. It didn't take long.

"Very well," he finished and turned mild. "We'll say no more about this. I realize you've had a shock which none of you were prepared psychologically to meet. But we've nevertheless got a problem. And it has a solution, too, of sorts, if we can work together. I repeat: if."

Lindgren had swallowed her weeping. "I think I was supposed to—" she said. He shook his head at her and went on:

"We can't repair the decelerators because we can't turn off the accelerators. The reason is, as the mate has explained, we must keep its forcefields for shielding against interstellar gas. So it looks as if we're bottled in this hull. Which was never intended to house us for more than a few years, ship's time. Well, I don't like the prospect either.

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But I did get an idea. A possibility of escape, if we have the nerve and determination. Navigator Boudreau checked the figures for me. We have a chance of success."

"Get to the point, will you?" yelled Williams.

"I'm glad to see some spirit," Reymont said. "It'll have to be kept under control, though or we are finished. But, to make this as short as possible — afterward Captain Telander and the specialist officers can explain details — the idea is this."

His flat delivery might have been used to describe a new method of bookkeeping. "If we can leave the galaxy, get out where gas is virtually nonexistent in space, we can safely turn off the fields. Then we can go outside of the hull and repair the decelerators. Now astronomical data are not as precise as one might like, but we do know that even in nearby intergalactic space, the medium is too dense. Much thinner than here, of course, but still so thick, in terms of atoms struck per second, as to kill us without protection.

"However, galaxies generally occur in clusters. Our galaxy, the Magellanic Clouds, M31 in Andromeda, and thirteen others, large and small, make one such group. The space it occupies is about six million light-years across. Beyond them is an enormously greater distance to the next galactic family. And in that stretch, we hope, the gas is thin enough for us not to need shielding."

Reymont lifted both hands. He had holstered his gun. "Wait, wait!" he managed to laugh. "Don't bother. I already know what you're trying to say. Ten or twenty million light-years, however far we must go, is impossible. We haven't the tau for it. A ratio of fifty, or a hundred, or a thousand, does us no good whatsoever. Agreed. But remember, we have no limit on our tau. Especially if we widen our scoop fields and, also, pass through parts of this galaxy where gas is denser than here. Both of these we can do. The exact parameters we've been using were determined by our course to Beta Virginis; but the ship is not restricted to them. We could go as high as ten gee, maybe higher.

"So. A rough estimate indicates that if we swing partway around this galaxy and then plunge straight inward through its middle and out the other side — we'd have to make that partial circuit anyway; we can't turn on *ore* at our speed! — we can pick up the necessary tau. Remember, it'll increase constantly. Our transmit time to

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Beta would have been much less than we figured on if we hadn't meant to stop there: if, instead of making turnover at midpassage, we had simply kept cramming on the speed. Navigator Boudreau estimates — estimates, mind you; we'll have to gather data as we go; but a good, informed guess — he thinks we can finish with this galaxy and head out beyond it in a little over one year."

"How long cosmic time?" challenged from the gathering.

"Does that matter?" Reymont retorted. "You know the dimensions. The galactic disk is about 100,000 light-years in diameter. At present we're some 30,000 light-years from the center. A quarter million years altogether? Who can tell? It'll depend on what course we take, which in turn will depend on what long-range observation can show us." He stabbed a finger at them. "I know. You wonder, what if we hit a cloud such as got us into this miserable situation. Well, I have two answers for that. First, we have to take some chances. But second, as our tau gets greater and greater, we'll be able to *use* regions which are denser and denser. We'll have too much mass to be affected as we were this time. Do you see? The more we have, the more we can get. We may well leave the galaxy with a tau on the order of a hundred million. If so, by ship's time we'll be outside of this entire galactic cluster in days!"

"And how do we get back?" Glassgold called — but alert and interested.

"We don't," Reymont admitted. "We keep on till we find another galactic cluster. There we reverse process, decelerate. We'll be helped somewhat by the fact of recession. The other groups are already moving away from ours, you know. We won't have quite so much relative velocity to kill. But eventually we'll be inside a single galaxy. Our tau will be down to something reasonable. We can start looking for a planet where we can live.

"Yes, yes, yes!" he barked into their babble, impatient again. "Millions of years in the future. Millions of light-years from here. The human race most likely extinct . . . in this part of the universe. But can't we start over, in another space and time? Or would you rather sit in this metal shell, feeling sorry for yourselves, till you grow senile and die childless? Unless you can't stand the gaff, and blow out the brains you flatter yourselves you have. I'm for going on, as long as strength lasts. Will anyone who feels differently be so good as to get out of the way?"

He stalked from the dais. "Ah

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. . . Navigation Officer Boudreau," Telander said into the rising noise. "Will you come here? Ladies and gentlemen, this meeting is now open for questions —"

Chi-yuen Ai-ling caught Reymont's hand. He glanced down at her. "You were marvelous," she exclaimed.

His mouth tightened. He looked from her, from Lindgren, across the group, to the enclosing bulkheads. "Thanks," he replied curtly. "Wasn't anything."

"Oh, but it was. You gave us back hope." She lowered her gaze and colored. "I am honored to share a cabin with you."

He didn't seem to hear. "Anybody could have presented a shiny new idea," he said. "They'll grasp at anything, right now. I only expedited matters. When they accept the program, that's when the real trouble begins."

VI

Forcefields shifted about. They were not mere static tubes and screens. What formed them was the incessant interplay of electromagnetic pulses, whose generation, propagation and heterodyning must be under control at every nanosecond, from the quantum level to the cosmic. As exterior conditions — matter density, radiation, impinging field strengths, gravitational space-curvature — changed, instant by instant, their reaction on the ship's immaterial web was registered; data were fed into the computers; handling a thousand simultaneous Fourier series as the smallest of their tasks, these machines sent back their answers; the generating and controlling devices, swimming aft of the hull in a vortex of their own output, made their supple adjustments. Into this homeostasis, this tightrope walk across the chance of improper response — which would mean distortion and collapse of the fields, nova-like destruction of the ship — entered a human command. It became part of the data. A starboard intake was widened, a port intake throttled back; but carefully, carefully. *Leonora Christine* swung around onto her new course.

The stars saw the ponderous movement of a steadily larger mass, taking months and years before the deviation from its original track was significant. Not that the object they saw was slow. It was a planet-sized shell of incandescence, where atoms were seized by its outermost force-fringes and excited into thermal, fluorescent, synchrotron radiation. And it came barely behind the wave front which announced its march. But the gal-

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axy was vast. The ship's luminosity was soon lost across light-years.

The ship's passage crawled through abysses which seemingly had no end.

In her own time, though, the story was another. She moved through a universe ever more strange — more rapidly aging, more massive, more compressed. Thus the rate at which she could gulp down hydrogen, burn some of it to energy and hurl the rest off in a billion-kilometer jetflame . . . that rate kept increasing for her. Each minute, as counted by her clocks, added more to her tau than the last minute had added to it.

Inboard, nothing changed. Air and metal still carried the deep beat of acceleration, whose net internal thrust still stood at an even one gravity. The interior powerplant continued to give light, electricity, thermostatic control.

And the biosystems reclaimed oxygen and water, processed waste, produced food, maintained human life. Entropy increased. People grew older at the ancient rate of sixty seconds per minute, sixty minutes per hour.

But those hours were always less related to the hours and years which passed outside. Loneliness closed on the ship like fingers.

VII

Reymont paused for a moment at the entrance to commons. The main room lay big and quiet. At first it had been in constant use, an almost hysterical crowding together. But lately, aside from meals, the tendency was for scientists and crewfolk to form little cliques, or retreat into solitariness. Not many ball games went on in the gym any more; the hobby shops were often deserted. No serious quarrels had developed. It was just a matter of confessing by one's actions that one was weary to death of the same faces and the same conversations, and therefore meant to spend most of the time apart — reading, watching taped shows, writing, thinking, sleeping as much as possible. Offsetting this tendency in some was a change in the sexual habits of others. Reymont wasn't sure whether that betokened a breakdown or a groping toward a new pattern better suited to present conditions. Maybe both. At any rate, most relationships had become transient, though some groups stayed more or less together as wholes and went in for a good deal of experimentation.

He didn't care one way or another about that. He wished they'd all pull themselves together, get more exercise and do

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less brooding. But he couldn't persuade many. His inflexible enforcement of certain basic rules had pretty well isolated him socially.

Apropos which — yes. He strode across the deck. A light above each of the three dream booths said it was occupied. He fished a master key from his pocket and opened the lids, one by one. Two he closed again. But at the third he swore. The stretched-out body, the face under the somnohelmet, belonged to Emma Glassgold.

For a moment he stood looking down at the little woman. Peace dwelt in her smile. But skin was loose and unhealthily colored. The EEG screens behind the helmet said she was in a soothed condition. So she could be roused fast without danger. Reymont snapped down the override switch on the timer. The oscilloscopic trace of the hypnotic pulses that had been fed into her brain flattened and darkened.

She stirred. "*Shalom, Moshe,*" he heard her whisper. There was nobody aboard named Moshe.

He slid the helmet off, uncovering her eyes. She squeezed them tighter shut, knuckled them, and tried to turn around in the box.

"Come on," Reymont said. "Wake up." He gave her a shake.

She blinked at him. The breath snapped into her. She sat straight. He could almost see the dream fade away behind those eyes. "Come on," he repeated, offering his hand to assist. "Climb out of that damned coffin."

"*Ach,* no, no," she slurred. "You . . . I was with my Moshe."

"I'm sorry, but — "

She crumpled into sobbing. Reymont slapped the booth, a cracking across every other noise. "All right," he said, "I'll make that a direct order. Out! And report to Dr. Winblaa."

"What the devil's going on here?"

Reymont turned. Norbert Williams must have heard him and come in from the pool, because the chemist was nude and wet. He was also furious. "So now you're bullying women," he said in a thickened tone. "Not even big women. Get away from here."

Reymont stood where he was. "We have regulations about the use of dream booths," he said. "If someone hasn't the self-discipline to observe them, I have to compel."

"Yah! Snooping around, watching us, shoving your nose up everybody's privacy — God, I'm not going to put up with it any longer!"

"Don't," Glassgold pleaded. "Don't fight." She seemed to shrink into herself. "I will go."

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"Like hell you will," the North American answered. "Stay. Insist on your rights." His features burned crimson. "I've had a bellyful of this little tin Jesus, and now's the time to do something about him."

Reymont said, spacing his words: "The regulations limiting use of the booths wasn't written for fun, Williams. Too much sleep, too much artificial stimulation of dreams, is bad. It becomes addictive. The end result can be insanity."

"Listen." The chemist made an obvious effort to curb his own wrath. "People aren't identical. *You* may think we can be chopped and trimmed to fit your pattern — you and your dragooning us into calisthentics, your arranging work details that any child could see aren't for anything except to keep us busy a few hours per day, your smashing the still that Pedro Rodrigues built — your whole petty dictatorship, ever since the voyage began, worse and worse since we veered off on this Flying Dutchman chase — " He swallowed. "Listen," he said. "Those regulations. Like here. They're written to make sure nobody gets too much dream time. Of course. But how do you know that some of us are getting enough? We've all got to spend some time in the booths. You also, Constable Iron Man. You also. The ship's too sterile an environment. It's a sensory-deprivation place. We've got to have substitutes."

"Certainly — " Reymont interrupted:

"Now how can you tell how much substitute anyone else may need? You don't have the sensitivity God gave a cockroach. Do you know one mucking thing about Emma's background? I do. I know she's a fine, courageous woman . . . perfectly well able to judge her own necessities, and guide herself . . . she doesn't need you to run her life for her." Williams pointed. "There's the door. Use it."

"Norbert, don't," Glassgold shivered. She climbed from the box and tried to come between the men. Reymont eased her to one side and answered Williams:

"If exceptions are to be made, the ship's doctor is the one to determine them. Not you. She has to see Dr. Winblad anyway, after this. She can ask him for a medical authorization."

"I know how far she'll get with him. That bastard won't even issue tranquilizers."

"We've a long trip ahead of us. Unforeseeable stresses to undergo. If we start getting dependent on pacifiers — "

"Did you ever think, without

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some such help, we'll go crazy and die? We'll decide for ourselves, thank you. Now go away, I said!"

Glassgold sought once more to intervene. Reymont had to seize her by the arms to move her.

"*Get your hands off her, you swine!*" Williams charged in with both fists flailing.

Reymont released Glassgold and drifted back, to where more room for maneuvering was available. Williams yelped and followed. Reymont guarded himself against the inexpert blows until, after a minute, he sprang close. A karate flurry, two chops, a gush from emptied lungs, and Williams went to the deck. He huddled retching. Blood dripped from his nose.

Glassgold shrieked and ran to him. She knelt, pulled him close, glared up at Reymont. "Aren't you brave?" she spat.

The constable spread his palms. "Was I supposed to let him hit me?"

"You c-c-could have left."

"No. My duty is to maintain order on board. Until Captain Telander relieves me from that, I'll continue to do so."

"Very well," Glassgold said between her teeth. "We are going to the captain at once. I am lodging a formal complaint against you."

Reymont shook his head. "It was explained and agreed on," he answered, "that the skipper mustn't be bothered with our ordinary troubles and bickerings. Not under these new circumstances, when we're bound into the absolute unknown. He has to think of the ship."

Williams groaned his way back toward full consciousness.

"But we will go to First Mate Lindgren," Reymont said. "I have to file charges against both of you."

Glassgold compressed her lips. "As you wish," she said.

"Not Lin'gren," Williams mouthed. "Lin'gren an' him, they was —"

"No longer," Glassgold said. "She couldn't stand any more of him, even before the disaster. She will be fair." She rose, helped Williams up, supported him the whole way to officer country.

Several people saw them pass and started to ask what had happened. Reymont glowered them into silence. The looks they returned him were sullen. At the first intercom callbox, he dialed Lindgren's cabin and requested her to come to the interview room.

It was minuscule but soundproof, a place for confidential hearings and necessary humiliations. Lindgren seated herself behind the desk. She had donned a

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uniform for the occasion. The fluoropanels spilled light onto her frost-blonde hair; the voice in which she asked Reymont to commence was equally cold.

He gave a short, flat account of what had happened. "I charge Professor Glassgold with violation of a rule on personal hygiene," he finished, "and Mr. Williams with assault."

"Mutiny?" Lindgren inquired. Williams looked dismayed.

"No, madam. Assault will suffice," Reymont said. To the chemist: "Consider yourself lucky. We can't psychologically afford a full-dress trial, which a charge of mutiny would bring. Not unless you keep on with this kind of behavior."

"That will do, Constable," Lindgren snapped. "Professor Glassgold, please give me your version of what happened."

Anger still upbore the biologist. "I plead guilty to the violation as alleged," she said without a waver, "but I am also pleading guilty and asking for a full review of my case — of every body's case — as provided by the articles. Not Dr. Winblad's judgment alone; a board of ship's officers and my colleagues. As for the fight, Norbert was intolerably provoked, and he was made the victim of sheer viciousness."

"Your statement, Mr. Williams?"

"I don't know how I stand under your damn reg — " The North American checked himself. "Pardon, ma'am," he said, a little thickly still through his puffed lips. "I never did memorize space law. I thought common sense and good will would see us through. Reymont may be technically in the right, but I've had about as much of his brazen-headed interference as I can tolerate."

"Then, Professor Glassgold, Mr. Williams, are you willing to abide by my judgment? You are entitled to a regular trial if you so desire."

Williams managed a lopsided grin. "Matters are bad enough already, ma'am. I suppose this has to go in the log, but maybe it doesn't have to go in everyone's ears."

"Oh, yes," Glassgold whispered. She caught Williams' hand.

Reymont opened his mouth. "You are under my authority, Constable," Lindgren intercepted him. "You may, of course, appeal to Captain Telander."

"No, madam," Reymont clipped.

"Very well." Lindgren leaned back. A smile thawed her features. "I suggest that accusations on every side of the case be dropped . . . or, more accurately,

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never be filed. Let's sit down — go ahead, use that bench — let's talk this problem out as among human beings who are all in, shall I say, the same boat."

"Him too?" Williams jerked a thumb toward Reymont.

"We must have law and discipline, you know," Lindgren said mildly. "Without them, we die. Perhaps Constable Reymont gets over-zealous. Or perhaps not. He is, though, the only police and military specialist we have. If you dissent from him — well, that's what I am here for. Do sit down. I'll ring for coffee. We might make a raid on our cigarette ration, too."

"If the mate pleases," Reymont said, "I'll excuse myself."

"No, we have things to say to you also," Glassgold declared.

Reymont kept his eyes on Lindgren's. It was as if sparks flew between. "As you explained, madam," he said, "my business is to uphold the rules of the ship. No more, no less. This has become something else: a personal counselling session. I suggest the lady and gentleman will talk more freely without me."

"I believe you are right, Constable," the mate nodded. "Dismissed."

He sketched a salute and left. On his way down the corridor, Freiwald greeted him with an approximation of cordiality. But then, Freiwald was one of his half-dozen deputies.

He entered his cabin. The partition was drawn aside. Chi-yuen Ai-ling sat on his bunk rather than her own. She wore something light and frilly, which made her look like a little girl, a sad one. "Hello," she said tonelessly. "You have thunder in your face. What happened?"

Reymont joined her and related it.

"Well," she sighed, "can you blame them so much?"

"No. I suppose not. Though — I don't know. They're supposed to be the best Earth could offer. Intelligence, education, stable personality, good health, dedication. And they know they'd likely never come home again. At a minimum, they'd come back to an Earth older than the one they left by the better part of a century." Reymont ran a hand through his wirebrush hair. "So things have changed," he said. "We're off to an unknown destiny, maybe to death, certainly to complete isolation. But is this so different from what we were planning on from the start? Should it make people go to pieces?"

"Yes," Chi-yuen said. "It does."

"You too. I've noticed." He gave her a ferocious look. "You were busy at first, your theoreti-

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cal work, your programming the studies you meant to carry out in the Beta Virginis System. And when the trouble hit us, you rallied as well as anyone."

A ghostly smile crossed her lips. "You inspired me," she said.

"Since then, however . . . more and more, you sit doing nothing. I think you and I had the beginnings of, uh, real friendship; but you don't often make any meaningful contact with me of late, nor with anyone else. No more work. No more big daydreams. Not even much crying into your pillow after lights out . . . oh, yes, I'd lie awake and hear you. Why, Ai-ling? What's happening to you? To most of our people?"

"I suppose we have not quite your raw will to survive at any cost," she said, almost under her breath.

"I'd consider some prices for life too high myself. But here — We have what we need to exist. A certain amount of comfort as well. An adventure like nothing we'd dreamed of. What's wrong?"

"Do you know what the year is on Earth?" she countered.

"No. I was the one who suggested to Captain Telander he order that particular clock removed. You may as well know that now. Too morbid an attitude was developing around it."

"Most of us can make our own estimates anyway. At present, I believe it is about 10,000 Anno Domini at home. Give or take some centuries. And, oh, yes, I recognize that for a nonsense statement. I understand about the concept of simultaneity breaking down under relativistic conditions. But still that date does have a meaning. We are absolute exiles. Already. Irrevocably. What has happened on Earth? What is happening throughout the galaxy? What have men done? What are they becoming? We will never share in it. We cannot."

She had spoken in a level, almost indifferent voice. He tried to break her apathy with sharpness: "What of that? If we'd gone to Beta Three and stayed, we'd have had a thread of radio contact, words a generation old before we heard them. Nothing else. And our own deaths would have closed us off from the universe. The common fate of man. Why should we whine because ours takes an unexpected shape?"

She regarded him for a space before she said, "You don't really want an answer for yourself. You want to provoke one from me."

Startled, he said, "Well . . . yes."

"You understand people a great deal better than you let on. Your business, I suppose. You tell me what our trouble is."

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"Loss of purpose," he said at once. "The crewfolk aren't in such bad condition yet. They have their jobs to keep them occupied. But most of those aboard are scientists. They'd signed their lives over to the Beta Virginis expedition. You, for example, intended to study planetology there. So you had that to look forward to; and meanwhile you had your preparations to play with. Now you have no idea what will happen. You know just that it'll be something altogether different from what you expected. That it may be death — because we are taking some frightful risks — and you can do nothing to help, only sit passive and be carried. Naturally your morale cracks."

"What do you suggest I do, Charles?"

"Well, why not continue your theoretical work? Try to generalize it. Eventually we'll be looking for a planet to settle on. Your specialty will be very much needed."

"You know what the odds are against our ever finding a home. We are going to keep on this devil's chase until we die."

"Damnation, we can improve the odds!"

"How?"

"That's one of the things you ought to be working on."

She smiled again, a little more alive. "Do you know, Charles," she said, "you make me want to. If for no other reason than to make you stop flogging at me. Is that why you are so hard on people?"

He considered her. She had borne up thus far better than most. Maybe she would gain fresh courage from, well, sharing with him. And every glint of will and hope was to be nurtured. "Can you keep a trade secret?" he asked.

Her glance actually sparkled. "You should know me that well by now." One bare foot rubbed across his thigh.

He patted it and grinned. "An old principle," he said. "Works in military and para-military organizations. I've been applying it here. The human animal wants a father-mother image but, at the same time, resents being disciplined. You can get stability like this: The ultimate authority-source is kept remote, godlike, practically unapproachable. Your immediate superior is a mean son of a bitch who makes you toe the mark and whom you therefore hate. But *his* superior is as kind and sympathetic as rank allows. Do you follow me?"

She laid a finger to her chin. "No, not really."

"Well, in the present case — oh, you'll never know how carefully I maneuvered, those first

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few months after we hit the nebulina, to help things work out this way — Captain Telander has been isolated, along with those officers most concerned with the actual operation of the ship. He doesn't realize that. He agreed to my argument that he shouldn't be distracted by ordinary business, because his whole attention must go to getting us safely through the galaxy's clouds and clusters. But this has removed him from the informal, intimate basis on which we operated before. He dines separately, with Boudreau and Fedoroff. He takes his recreation and exercise alone in the cabin we've enlarged for him. When he needs a woman, he requests her most politely to visit him, and never asks the same one twice. And so on and so on.

"I can't claim credit for the whole development. Much of it is natural, almost inevitable evolution. The logic of our problem brought it about, given some nursing by me. The end result, however, is that our good gray friend Lars Telander has been transformed into the Old Man."

Chi-yuen half smiled, half sighed. "Poor Old Man! Why?"

"I told you," Reymont said. "Psychological necessity. The average person aboard has to feel that his life is in competent hands. Of course, no one believes consciously that the captain is infallible. But there's an unconscious need for such an aura. Therefore, we have now established things so that the captain's human-level judgment never is put to the test."

"Lindgren is the surrogate there?" Chi-yuen looked closely at Reymont.

He nodded. "I'm the traditional top sergeant. Hard, harsh, demanding, overbearing, inconsiderate, brutal. Not so bad as to provoke a petition for my removal. But enough to irritate, to be unpopular. That's good for the others, you know. It's healthier to be mad at me than to brood on personal woes . . . as you, my dear, have been doing.

"Now Lindgren smooths things out. As first mate, she sustains my power. But she also overrides it from time to time. She exercises her rank to bend regulations in favor of need. As a result, she adds benignity to the attributes of Ultimate Authority."

Reymont shrugged. "Thus far, the system's worked," he finished. "It's beginning to break down. We'll have to add a new factor."

Chi-yuen gazed at him so long that he shifted uncomfortably on the bunk. At last she asked, "Did you plan this with Ingrid?"

"Eh?" he said, surprised. "Oh,

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no. Certainly not. Her role demands that she *not* be a Machiavelli type who plays the part deliberately."

"You know her so well . . . from old acquaintance?"

"Yes." He reddened. "What of that? These days we have to keep aloof from each other. For obvious reasons."

"I think you find ways to continue rebuffing her, Charles."

"M-m-m . . . damnation, leave me alone. What I want to do is help you get back some real will to live."

"So that I, in turn, can help you keep going?"

"Well, uh, yes. I'm no superman. It's been too long since anyone held my hand."

"Are you saying that because you mean it, or because it serves your purpose?" Chi-yuen tossed back her dark locks. "Never mind. Don't answer. We will help each other, what little we can. Afterward, if we survive — we will settle that when we have survived."

His dark, scarred features softened. "You have for a fact begun to think in survival terms again," he said. "Good. Thanks."

She chuckled. Her arms went about his neck. "Come here, you."

TO BE CONCLUDED

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MIRROR OF ICE

by GARY WRIGHT

When your sled goes wild you always have one escape still open — even if it kills you!

They called it The Stuka. It was a tortuous, twenty-kilometer path of bright ice, and in that distance — 12.42 miles — it dropped 7,366 feet, carving a course down the alpine mountainside like the track of a great snake. It was thirty feet wide on the straights with corners curling as high forty feet. It was made for sleds. . . .

He waited in the narrow cockpit and listened to the wind. It moaned along the frozen shoulder of the towering white peak and across the steep starting ramp, pushing along streamers of snow out against the hard blue sky, and he could hear it cry inside him with the same cold and lonely sound.

He was scared. And what was worse — he knew it.

Forward, under the sleek nose of his sled, the mountain fell away abruptly — straight down, it seemed — and the valley was far below. So very far.

. . . *too far this time, buddy-boy, too far forever* . . .

The countdown light on the dash flickered a sudden blood red, then deliberately winked twice. At the same time two red rockets arced out over the valley and exploded into twin crimson fireballs.

Two minutes.

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On both sides of the starting ramp, cantilevered gracefully from the mountainside, brightly bannered platforms were crowded with people. He glanced at the hundreds of blankly staring sunglasses, always the same, always turned to the ramp as if trying to see inside the helmets of these men, as if trying to pry into the reasons of their being there waiting to die. He looked back to the deep valley; today he wondered too.

. . . just one last time, wasn't that what you told yourself? One last race and that's the end of it and good-by to the sleds and thank God! Wasn't that your personal promise?

Then what in hell are you doing here? That "last race" was last month's race. Why are you in this one?

No answer.

All he could find inside were cold questions and a hollow echo of the wind. He gripped the steering wheel, hard, until cramps began in his hands; he would think about his sled . . . .

It was his eleventh sled, and like the others it was a brilliant red, not red for its particular flash, but because of a possible crash far from the course in deep snow. He wanted to be found and found fast. Some of the Kin had never been found in time.

. . . they didn't find Bob Lander until that summer —

He forced himself back.

Empty, the sled weighed 185 pounds and looked very much like the body-shell of a particularly sleek racer but with a full bubble canopy and with runners instead of wheels. It was a mean-looking missile, low and lean, hardly wider than his shoulders, clearing the ice by barely two inches. He sat nearly reclining, the half wheel in his lap, feet braced on the two edging pedals — and this was the feature that made these sleds the awesome things they were. They could tilt their runners — four hollow-ground, chrome-steel "skis" — edging them against the ice like wide skate blades. This was what had changed bobsledding into *. . . this*: this special thing with its special brotherhood, this clan apart, this peculiar breed of men set aside for the wonder of other men. The Kin, they called themselves.

. . . someone once, laughing, had said, "Without peer, we are the world's fastest suicides."

He snapped himself back again and checked his brakes.

By pulling back on the wheel, two electrically operated flaps — actually halves of the sled's tail section — swung out on either side. Silly to see, perhaps. But quite effective when this twelve

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and a half square feet hit the airstream at eighty mph. A button under his right thumb operated another braking system: with each push it fired forward a solid rocket charge in the nose of the sled. There were seven charges, quite often not enough. But when everything failed, including the man, there was the lever by his left hip. The Final Folly, it was called; a firm pull and, depending on a hundred unknown "if's" and "maybe's," he might be lucky enough to find himself hanging from a parachute some 300 feet up. Or it might be the last voluntary act of his life.

He had used it twice. Once steaking into the tall wall of the Wingover, he had lost a runner . . . and was almost fired into the opposite grandstand, missing the top tier of seats by less than four feet. Another time six sleds suddenly tangled directly in front of him, and he had blasted himself through the over-hanging limbs of a large fir tree.

But others had not been so lucky.

Hans Kroger: they finally dug his body out of eighteen feet of snow; he'd gone all the way to the dirt. His sled had been airborne when he blew — and upside-down!

Jarl Yorgensen: his sled tumbling and he ejected directly under the following sleds. No one was certain that all of him was ever found!

Max Conrad: a perfect blowout! At least 350 feet up and slightly downhill . . . His chute never opened.

Wayne Barley: —

He jarred himself hard in the cockpit and felt the sudden seizure of his G-suit. He wanted to hit something. But he could feel the watching eyes and the TV cameras, and there wasn't room in the cockpit to get a decent swing anyway.

His countdown light flickered for attention and blinked once, and a single red rocket flashed into the sky.

One minute — God, had time stopped?

But that was part of it all: the waiting, the God-awful waiting, staring down at the valley over a mile below. And how many men had irrevocably slammed back their canopy in this lifetime of two minutes and stayed behind? A few, yes. And he could too. Simply open his canopy, that was the signal, and when the start came the other sleds would dive down and away and he would be sitting here alone. But, God, so alone! And he would be alone for the rest of his life. He might see some of the Kin again, sometime, somewhere. But they

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would not see him. It was a kind of death to stay behind.

. . . and a real death to go. Death, the silent rider with every man in every race . . .

He frowned at the other sleds, sixteen in staggered rows of eight. Sixteen bright and beautiful, trim fast projectiles hanging from their starting clamps. He knew them, every one; they were his brothers. They were the Kin — but not here. Not now.

Years ago when he was a novice he had asked old Franz Cashner, "Did you see the way I took Basher Bend right beside you?"

And Franz told him, "Up there I see nobody! Only sleds! Down here you are you, up there you are nothing but another sled. That's all! And don't forget that! That's all! And don't forget that!"

. . . and it had to be that way. On the course sleds crashed and were no more . . . . Only later, in the valley, were there men missing.

Of these sixteen, chances were that nine would finish. With luck, maybe ten. And chances also said that only fourteen of these men would be alive tonight. Those were the odds, as hard and cold as the ice, the fascinating frosting for this sport. Violent death! Assured, spectacular, magnetic death in a sport such as the world had never known. Incredible men with incredible skills doing an incredible thing.

Back in the Sixties they claimed an empty sled with its steering locked would make a course all by itself. An empty sled here would not last two corners. The Stuka was a cold killer, not a thrill ride. And it was not particular. It killed veterans and novices alike. But there was $20,000 for the man who got to the end of it first, and a whole month before he had to do it again. Money and fame and all the girls in the world. Everything and anything for the men who rode the Stuka.

Was that why they did it?

. . . yes, always that question: "Why do you do it?" And before he had died on the Plummet, Sir Robert Brooke had told them, "Well, why not?"

And it was an answer as good as any.

But was it good enough this time?

No answer.

He only knew there was but one way off this mountain for him now and that was straight ahead, and for the first time since his novice runs, his legs were trembling. Twelve and a half miles, call it, and the record was 9 minutes, 1.14 seconds! An average speed of 82.67 mph, and that was *his* record. They would at

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least remember him by that!

His countdown light flashed, a green rocket rose and burst, and there was a frozen moment . . . the quiet click of the release hook, the lazy, slow-motion start, the sleds sliding forward in formation over the edge . . . then he was looking once again into the terrible top of the Stuka — that 45-degree, quarter-mile straight drop. In six seconds he was doing over 60 mph, and the mouth of the first corner was reaching up.

. . . *Carl's Corner, for Carl Rasch, who went over the top of it nine years ago; and they found him a half-mile down the glacier . . . what was left of him . . .*

He glanced to his right. It was clear. He eased his flap brakes, dropped back slightly and pulled right. The leading sleds were jockeying in front now, lining for this long left. Brakes flapped like quick wings, and they started around, sleds riding up the vertical ice wall and holding there, ice chips spraying back like contrails from those on the lower part of the wall as they edged their runners against the turn. He came in far right and fast, riding high on the wall and diving off with good acceleration.

The ice was a brilliant blur underneath now, and he could feel the trembling rumble of his sled. They rattled into the Chute, a steep traverse, still gaining speed, still bunched and jostling for position. He was in the rear but this was good; he didn't like this early crowding for the corners.

The sheer wall of Basher Bend loomed, a 120-degree right that dropped hard coming out. He was following close in the slipstream of the sled in front of him, overtaking because of the lessened wind resistance. The corner came, and they were on the wall again. With his slightly greater speed he was able to go higher on the wall, nearly to the top and above the other sled. His G-suit tightened. They swarmed out of the corner and into the Strafing Run, a long, steep dive with a hard pull-out.

A roar rose from the mountain now as the sleds reached speed, a dull rumble like that of avalanche . . . and that is actually what they were now — an avalanche of sleds, and just as deadly.

He pulled ahead of the other sled in the dive and hit the savage pull-out right on the tail of another, and the next turn curved up before them: Hell's Left, a double corner, an abrupt left falling into a short straight with another sharp left at the bottom. He was still overtaking, and they went up the wall side

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by side, he on the inside, under the other. He eased his left pedal, using edges for the first time, holding himself away from the other by a safe six inches. The course dropped away, straight down the mountain to the second half of the corner, and he felt the sickening sudden smoothness of leaving the ice — he had tried it too fast, and the course was falling away under him. . . .

. . . old Rolf De Kepler, "The Flying Dutchman," laughing over his beer and saying, "Always I am spending more time off the ice than on, hah? So this is more easy to my stomach. Already I have four G-suits to give up on me."

. . . and he had made his last flight three years ago off the top at the bottom of Hell's Left . . . 400 yards, they claimed.

He held firm and straight on the wheel and pulled carefully, barely opening his brakes. The sled touched at a slight angle, lurched, but he caught it by edging quickly. The other sled had pulled ahead. He tucked in behind it. The second left was rushing up at them, narrow and filled with sleds. They dove into it less than a foot apart. Ice chips streamed back from edging runners, rattling against his sled like a storm of bullets. There was an abrupt lurching, the quick left-right slam of air turbulence. A sled was braking hard somewhere ahead. Perhaps two or three. Where? He couldn't see. He reacted automatically . . . full air brakes, hard onto his left edges and steer for the inside; the safest area if a wreck was trying to happen. His sled shivered with the strain of coming off the wall, holding against the force of the corner now only with the knifelike edges of its runners. But the force was too great. He began to skid, edges chattering. He eased them off a little, letting the sled drift slightly sideways. Two others had sliced down to the inside too, edges spraying ice. For a moment he was blinded again, but the corner twisted out flat, and he was through and still on the course, and he knew he was too tight, too hard with his control; he was fighting his sled instead of working with it . . . .

. . . a tourist once asked Erik Sigismund how he controlled his sled, and he answered, "Barely." And even that had failed when he flipped it a year ago and four others ran over him.

An old, lurking thought pounced into him again . . . he couldn't stop this sled now if he wanted to. There was no such thing as stopping, outside of a crash. He had to ride until it ended, and he was suddenly cer-

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tain that was not going to be at the bottom. Not this time. He had crashed before, too many times, but he had never had this feeling of fear before. Not *this* fear. It was different, and he couldn't say why, and he was letting it affect him. And that was the greatest wrong.

They were thundering into the Jackhammer now, 300 yards of violent dips. Every sled had its brakes out, and there were fast flashes as some fired braking rockets. But where the walls of the course sloped upward the ice was comparatively smooth. He eased left, to the uphill side, and leaned on his left pedal, holding the sled on the slope with its edges. Then he folded his air brakes and started gaining again. It was necessary; one did not hold back from fear. If that was one's style of life, he would never be a sledder in the first place.

Suddenly from the middle of the leading blurs a sled became airborne from the crest of one of the bumps. It hit once and twisted into the air like something alive. Sleds behind it fired rockets and tried to edge away. One skidded broadside, then rolled. A shattered body panel spun away; the two sleds were demolishing themselves. Someone blew-out, streaking into the sky, canopy sparkling high in the sun — and that meant another sled out of control. He pulled full air brakes and fired a rocket, the force slamming him hard against his chest straps. His left arm was ready to fire the charge under the seat. But if he waited too long . . . .

. . . Kurt Schnabel was proud to be the only man who had never ejected . . . but the one time he had tried he had waited the barest fraction of a moment too long, and his chute came down with his shattered corpse.

The three wild sleds whirled away, spinning out of sight over the low retaining walls. He folded his brakes. There was a trembling in his arms and legs like the slight but solid shuddering of a flywheel out of balance, involuntary and with a threat of getting worse. He cursed himself. He could have blown-out too. No one would have blamed him with that tangle developing in front. But he hadn't . . . and it was too late now.

. . . only one man had ever blown-out without an apparent reason and gotten away with it: Shorty Case in his first race. And when he was asked about it afterwards, asked in that over casual, quiet tone, he had answered, "You bet your sweet, I blew! 'Cause if I hadn't, man, I was gonna pee my pants!"

But he didn't blow-out that

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day on the Fallaways, the day his sled somersaulted and sowed its wreckage down the course for a half mile . . . and him too . . .

No, there were no quitters here; only the doers or the dead. And which was he going to be tonight?

. . . drive, don't think . . .

The Jackhammer smoothed out and plunged downward, and they were hurtling now into the Wingover at over 90 mph. Here were the second biggest grandstands on the course, the second greatest concentration of cameras.

Here two ambulance helicopters stood by, and a priest too. The Wingover . . . .

Imagine an airplane peeling off into a dive . . . imagine a sled doing the same on a towering wall of ice, a wall rising like a great, breaking wave, frozen at the moment of its overhanging curl . . . . The Wingover was a monstrous, curving scoop to the right, nearly fifty feet high, rolling the sleds up, over, and hurling them down into a 65 degree pitch when twisted into a 6-G pull-out to the left.

. . . "Impossible!" When Wilfrid von Gerlach laid out the Stuka that is what they told him about the Wingover. "It cannot be done!"

But von Gerlach had been a Gran Prix racer and a stunt pilot, and when the Stuka was finished he took the first sled through. At the finish he sat quietly for a moment, staring back at the mountain. "At the Wingover I was how fast?" he asked thoughtfully. They replied that he'd been radared there at 110 mph. He nodded, then made the statement the sledders had carried with them ever since.

"It's possible."

He watched the leading sleds line up for that shining, sheer curve and felt the fear freeze through him again. A man was little more than a captive in his sled here. If he was on the right line going in, then it was beautiful; if not, well . . . .

. . . the brotherly beers and the late talk . . .

"Remember when Otto Domagk left Cripple's Corner in that snow storm?"

"Ya, und ven him vas digged out — Vas? Two hours? — he vas so sleeping."

"And not a mark on him, remember?"

. . . Remember, remember . . .

He followed in line barely four feet from the sled in front of him and felt the savage, sickening blow as the wall raised and rolled him. A flicker of shadow, a glimpse of the valley nearly upsidedown, then the fall and the increasing shriek of wind and

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runners, and he was pointing perfectly into the pull-out, still lined exactly with the sled ahead — but there was one sled badly out of line . . .

And someone pulled their air brakes full open.

Sleds began weaving in the violent turbulence of those brakes. Rockets flashed. A sled went sideways, rolling lazily above the others, and exploded against the wall of the pullout. He pulled the ejection lever . . . nothing happened!

He was dead, he knew that. He saw two sleds tumbling into the sky, another shattered to pieces and sliding along the course. All that was necessary was to hit one of those pieces . . . but the corner was suddenly gone behind. The course unwound into a long left traverse. He remembered to breathe. There were tooth chips in his mouth and the taste of blood. He swerved past a piece of wreckage, then another . . .

. . . how many were dead now? Himself and how many others? But it wasn't fear of death — what was it? What was it that he'd walled off inside — that something secret always skirted as carefully as a ship veers from a hidden reef, knowing it is there —what? And now the wall was down, and he was facing . . . .

His sled shuddered. He was driving badly, too harsh with his edge control. He narrowly made it through the Boot and Cripple's Corner, spraying ice behind him, but it was not the sled that was out of control. It was him. And he was diving now straight for the gates of hell at over 110 mph.

It was called the Plummet. It began with an innocent, wide left, steeply banked, then the world fell away. It dove over a half mile headlong down a 50-degree slope straight into a ravine and up the other side, then into a full 180-degree uphill hairpin to the right, a steep straight to the bottom of the ravine again, and finally into a sharp left and a long, rolling straight. It had killed more men than any other part of the course.

Here were the biggest grandstands and the most hungry eyes of the cameras. Here there were three clergy, and emergency operating rooms. Here . . .

. . . here he would complete the formality of dying.

He came into the left too low, too fast for the edges to hold. The sled skidded. He reacted automatically, holding slight left edges and steering into the skid. The sled drifted up the wall, arcing toward the top where nothing showed but the cold blue of the sky. He waited, a part of

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him almost calm now, waiting to see if the corner would straighten before he went over the top. It did, but he was still skidding, close to the retaining wall, plunging into the half-mile drop nearly sideways. He increased his edges. The tail of the sled brushed the wall and it was suddenly swinging the opposite way. He revsersed his wheel and edges, anticipating another skid, but he was not quick enough. The sled bucked, careening up on its left runners. It grazed the wall again, completely out of control now — but he kept trying . . .

. . . and that was it; you kept trying. Over and over. No matter how many times you faced yourself it had to be done again. And again. The Self was never satisfied with single victories — you had to keep trying . . .

And he was empty no more.

The hospital. How many times had he awakened here? And it was always wonderfully the same: gentle warmth and his body finally relaxed and he would test it piece by piece to see what was bent and broken this time; and always the newsmen and the writers and the other assorted ghouls, and always the question and answer period. Punchlining, they called it . . . .

"How did it happen?"

"I dozed off."

"Why didn't you eject?"

"Parachuting is dangerous."

"When did you realize you were out of control?"

"At the starting line."

"What will you do now?"

"Heal."

"Will you race again?"

. . . "It's possible."

Outside, the wind was blowing.

—GARY WRIGHT

WIZARD'S WORLD

by Andre Norton

DRIFTGLASS

by Samuel R. Delany

— in the June issue of Hugo-winning *If*, now on sale!

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POLITY AND CUSTOM OF THE CAMIROI

by R. A. LAFFERTY

The committee had come to learn Camiroi customs — but they didn't know they'd have to learn so fast!

From Report of Field Group for Examination of Off-Earth Customs and Codexes to the Council for Governmental Renovation and Legal Rethinking. Taken from the day-book of Paul Piggott, political analyst.

Making appointments with the Camiroi is proverbally like building with quicksilver. We discovered this early. But they do have the most advanced civilization of any of the four human worlds. And we did have a firm invitation to visit the planet Camiroi and to investigate customs. And we had the promise that we would be taken in hand immediately on our arrival by a group parallel to our own.

But there was no group to meet us at the Sky-Port.

"Where is the Group for the Examination of Customs and Codexes?" we asked the girl who was on duty as Information Factor at the Sky-Port.

"Ask that post over there," she said. She was a young lady of mischievous and almost rakish mien.

"I hope we are not reduced to talking to posts," said our leader Charles Chosky, "but I see that it is some sort of communicating device. Does the post talk English, young lady?"

"The post understands the fifty languages that all Camiroi know," the young lady said. "On Camiroi, even the dogs speak fifty languages. Speak to it."

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"I'll try it," said Mr. Chosky. "Ah, post, we were to be taken in hand by a group parallel to our own. Where can we find the Group for the Examination of Customs and Codexes?"

"Duty! Duty!" cried the post in a girlish voice that was somehow familiar. "Three for a group! Come, come, be constituted!"

"I'll be one," said a pleasant-looking Camiroi, striding over.

"I'll be another," said a teen-age sprouting boy of the same species.

"One more, one more!" cried the post. "Oh, here comes my relief. I'll be the other one to form the group. Come, come, let's get started. What do you want to see first, good people?"

"How can a post be a member of an ambulatory group?" Charles Chosky asked.

"Oh, don't be quaint," said the girl who had been the information factor and also the voice of the post. She had come up behind us and joined us. "Sideki and Nautes, we become a group for cozening Earthlings," she said. "I am sure you heard the rather humorous name they gave it."

"Are you as a group qualified to give us the information we seek?" I asked.

"Every citizen of Camiroi is qualified, in theory, to give sound information on every subject," said the teen-age sproutling.

"But in practice it may not be so," I said, my legal mind fastening onto his phrase.

"The only difficulty is our over-liberal admission to citizenship," said Miss Diayggeia, who had been the voice of the post and the information factor. "Any person may become a citizen of Camiroi if he has resided here for one oodle. Once it was so that only natural leaders traveled space, and they qualified. Now, however, there are subsidized persons of no ability who come. They do not always conform to our high standard of reason and information."

"Thanks," said our Miss Holly Holm, "and how long is an oodle?"

"About fifteen minutes," said Miss Dia. "The post will register you now if you wish."

The post registered us, and we became citizens of Camiroi.

"Well, come, come, fellow citizens, what can we do for you?" asked Sideki, the pleasant-looking Camiroi who was the first member of our host group.

"Our reports of the laws of Camiroi seem to be a mixture of travelers' tales and nonsense," I said. "We want to find how a Camiroi law is made and how it works."

"So, make one, citizens, and see how it works," said Sideki. "You are now citizens like any other

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citizens, and any three of you can band together and make a law. Let us go down to Archives and enact it. And you be thinking what sort of law it will be as we go there."

We strode through the contrived and beautiful parklands and groves which were the roofs of Camiroi City. The extent was full of fountains and waterfalls, and streams with bizarre bridges over them. Some were better than others. Some were better than anything we had ever seen anywhere.

"But I believe that I myself could design a pond and weir as good as this one," said Charles Chosky, our leader. "And I'd have some of those bushes that look like Earth sumac in place of that cluster there; and I'd break up that pattern of rocks and tilt the layered massif behind it, and bring in a little of that blue moss —"

"You see your duty quickly, Citizen," said Sideki: "You should do all this before this very day is gone. Make it the way you think best, and remove the plaque that is there. Then you can dictate your own plaque to any of the symbouleutik posts, and it will be made and set in. 'My composition is better than your composition,' is the way most plaques read, and sometimes a scenery composer will add something humorous like 'and my dog can whip your dog.' You can order all necessary materials from that same post there, and most citizens prefer to do the work with their own hands. This system works for gradual improvement. There are many Consensus Masterpieces that remain year after year; and the ordinary work is subject to constant turnover. There, for instance, is a tree which was not there this morning and which should not be there tonight. I'm sure that one of you can design a better tree."

"I can," said Miss Holly, "and I will do so today."

We descended from the roof parklands into the lower streets of Camiroi City, and went to Archives.

"Have you thought of a new law yet?" Miss Dia asked when we were at Archives. "We don't expect brilliance from such new citizens, but we ask you not to be ridiculous."

Our leader Charles Chosky drew himself up to full height and spoke:

"We promulgate a law that a permanent group be set up on Camiroi to oversee and devise regulations for all random and hasty citizens' groups with the aim of making them more responsible, and that a full-scale review of such groups he held yearly."

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"Got it?" Miss Dia called to an apparatus there in Archives.

"Got it," said the device. It ground its entrails, and coughed up the law inscribed on bronze, and set it in a law niche.

"The echo is deafening," said our Miss Holly, pretending to listen.

"Yes. What is the effect of what we have done?" I asked.

"Oh, the law is in effect," said young Nautes. "It has been weighed and integrated into the corpus of laws. It is already considered in the instructions that the magistrate coming on duty in a short time (usually a citizen will serve as magistrate for one hour a month) must scan before he takes his seat. Possibly in this session he will assess somebody guilty of a misdemeanor to think about this problem for ten minutes and then to attach an enabling act to your law."

"But what if some citizens' group passes a silly law?" our Miss Holly asked.

"They do it often. One of them has just done so. But it will be repealed quickly enough," said Miss Dia of the Camiroi. "Any citizen who has his name on three laws deemed silly by general consensus shall lose his citizenship for one year. A citizen who so loses his citizenship twice shall be mutilated, and the third time he shall be killed. This isn't an extreme ruling. By that time he would have participated in nine silly laws. Surely that's enough."

"But, in the meantime, the silly laws remain in effect?" our Mr. Chosky asked.

"Not likely," said Sideki. "A law is repealed thus: any citizen may go to Archives and remove any law, leaving the statement that he has abolished the law for his own reasons. He is then required to keep the voided law in his own home for three days. Sometimes the citizen or citizens who first passed the law will go to the house of the abolitionist. Occasionally they will fight to the death with ritual swords, but most often they will parley. They may agree to have the law abolished. They may agree to restore the law. Or they may together work out a new law that takes into account the objections to the old."

"Then every Camiroi law is subject to random challenge?" Chosky asked.

"Not exactly," said Miss Dia. "A law which has stood unchallenged and unappealed for nine years becomes privileged. A citizen wishing to abolish such a law by removal must leave in its place not only his declaration of removal but also three fingers of his right hand as earnest of his seriousness in the matter. But a

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magistrate or a citizen going to reconstitute the law has to contribute only one of his fingers to the parley."

"This seems to me to favor the establishment," I said.

"We have none," said Sideki. "I know that is hard for Earthlings to understand."

"But is there no senate or legislative body on Camiroi, or even a president?" Miss Holly asked.

"Yes, there's a president," said Miss Dia, "and he is actually a dictator or tyrant. He is chosen by lot for a term of one week. Any of you could be chosen for the term starting tomorrow, but the odds are against it. We do not have a permanent senate, but often there are hasty senates constituted, and they have full powers."

"Such bodies having full powers is what we want to study," I said. "When will the next one be constituted, and how will it act?"

"So, constitute yourselves one now and see how you act," said young Nautes. "You simply say, 'We constitute ourselves a Hasty Senate of Camiroi with full powers.' Register yourselves at the nearest symbouleutic post, and study your senate introspectively."

"Could we fire the president-dictator?" Miss Holly asked.

"Certainly," said Sideki, "but a new president would immediately be chosen by lot; and your senate would not carry over to the new term, nor could any of you three partake of a new senate until a full presidential term had passed. But I wouldn't, if I were you, form a senate to fire the present president. He is very good with the ritual sword."

"Then citizens do actually fight with them yet?" Mr. Chosky asked.

"Yes, any private citizen may at any time challenge any other private citizen for any reason, or for none. Sometimes, but not often, they fight to the death, and they may not be interfered with. We call these decisions the Court of Last Resort."

Reason says that the legal system on Camiroi cannot be as simple as this, and yet it seems to be. Starting with the thesis that every citizen of Camiroi should be able to handle every assignment or job on Camiroi, these people have cut organization to the minimum. These things we consider fluid or liberal about the legal system of Camiroi. Hereafter, whenever I am tempted to think of some law or custom of Earth as liberal, I will pause. I will hear Camiroi laughing.

On the other hand, there are these things which I consider adamant or conservative about the laws of Camiroi:

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No assembly on Camiroi for purposes of entertainment may exceed thirty-nine persons. No more than this number may witness any spectacle or drama, or hear a musical presentation, or watch a sporting event. This is to prevent the citizens from becoming mere spectators rather than originators or partakers. Similarly, no writing — other than certain rare official promulgations — may be issued in more than thirty-nine copies in one month. This, it seems to us, is a conservative ruling to prevent popular enthusiasms.

A father of a family who twice in five years appeals to specialists for such things as simple surgery for members of his household, or legal or financial or medical advice, or any such things as he himself should be capable of doing, shall lose his citizenship. It seems to us that this ruling obstructs the Camiroi from the full fruits of progress and research. They say, however, that it compels every citizen to become an expert in everything.

Any citizen who pleads incapacity when chosen by lot to head a military operation or a scientific project or a trade combine shall lose his citizenship and suffer mutilation. But one who assumes such responsibility and then fails in the accomplishment of the task, shall suffer the loss and the mutilation only for two such failures.

Both cases seem to us to constitute cruel and unusual punishment.

Any citizen chosen by lot to provide a basic invention or display a certain ingenuity when there is corporate need for it, and who fails to provide such invention, shall be placed in such a position that he will lose his life unless he displays even greater ingenuity and invention than was originally called for.

This seems to us to be unspeakably cruel.

There is an absolute death penalty for impiety. But to the question of what constitutes impiety, we received a startling answer.

"If you have to ask what it is, then you are guilty of it. For piety is comprehension of the basic norms. Lack of awareness of the special Camiroi context is the greatest impiety of all. Beware, new citizens! Should a person more upright and less indulgent than myself have heard your question, you might be executed before night-rise."

The Camiroi, however, are straight-faced kidders. We do not believe that we were in any danger of execution, but we had been told bluntly not to ask questions of a certain sort.

CONCLUSION — Inconclusive. We are not yet able to un-

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derstand the true legal system of Camiroi, but we have begun to acquire the viewpoint from which it may be studied. We recommend continuing study by a permanent resident team in this field.

— PAUL PIGGOTT,
Political Analyst

From the journey-book of Charles Chosky, chief of field group.

The basis of Camiroi polity and procedure is that any Camiroi citizen should be capable of filling any job on or pertaining to the planet. If it is ever the case that even one citizen should prove incapable of this, they say, then their system has already failed.

"Of course, it fails many times every day," one of their men explained to me, but it does not fail completely. It is like a man in motion. He is falling off-balance at every step, but he saves himself, and so he strides. Our polity is always in motion. Should it come to rest, it would die."

"Have the Camiroi a religion?" I asked citizen after citizen of them.

"I think so," one of them said finally. "I believe that we do have that, and nothing else. The difficulty is in the word. Your Earth English word may come from *religionem* or from *relegionem;* it may mean a legality, or it may mean a revelation. I believe it is a mixture of the two concepts; with us it is. Of course we have a religion. What else is there to have?"

"Could you draw a parallel between Camiroi and Earth religion?" I asked him.

"No, I couldn't," he said bluntly. "I'm not being rude. I just don't know how."

But another intelligent Camiroi gave me some ideas on it.

"The closest I could come to explaining the difference," he said, "is by a legend that is told (as our Camiroi phrase has it) with the tongue so far in the cheek that it comes out the vulgar body aperture."

"What is the legend?" I asked him.

"The legend is that men (or whatever local creatures) were tested on all the worlds. On some of the worlds, men persevered in grace. These have become the transcendent worlds, asserting themselves as stars rather than planets and swallowing their own suns, becoming fully incandescent in their merged persons living in grace and light. The more developed of them are those closed bodies which we know only by inference, so powerful and contained that they let no light or gravity or other emission escape them. They become of themselves closed and total universes, of their own space and outside of

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what we call space, perfect in their merged mentality and spirit.

"Then there are the worlds like Earth where men did fall from Grace. On these worlds, each person contains an interior abyss and is capable both of great heights and depths. By our legend, the persons of these worlds, after their fall were condemned to live for thirty thousand generations in the bodies of animals and were then permitted to begin their slow and frustrating ascent back to remembered personhood.

"But the case of Camiroi was otherwise. We do not know whether there are further worlds of our like case. The primordial test-people of Camiroi did not fall. And they did not persevere. They hesitated. They could not make up their minds. They thought the matter over, and then they thought it over some more. Camiroi was therefore doomed to think matters over forever.

"So we are the equivocal people, capable of curious and continuing thought. But we have a hunger both for the depths and the heights which we have missed. To be sure, our Golden Mediocrity, our serene plateau, is higher than the heights of most worlds, higher than those of Earth, I believe. But it has not the exhileration of height."

"But you do not believe in legends," I said.

"A legend is the highest scientific statement when it is the only statement available," the Camiroi said. "We are the people who live according to reason. It makes a good life, but it lacks salt. You people have a literature of Utopias. You value their ideals highly, and they do have some effect on you. Yet you must feel that they all have this quality of the insipid. And according to Earth standards, we are a Utopia. We are a world of the third case.

"We miss a lot. The enjoyment of poverty is generally denied to us. We have a certain hunger for incompetence, which is why some Earth things find a welcome here — bad Earth music, bad Earth painting and sculpture and drama, for instance. The good we can produce ourselves. The bad we are incapable of, and must import. Some of us believe that we need it in our diet."

"If this is true, your position seems enviable to me," I said.

"Yours isn't," he said, "and yet you are the most complete. You have both halves, and you have your numbers. We know, of course, that the Giver has never given a life anywhere until there was real need for it, and that everything born or created has its individual part to play. But we wish the Giver would be more

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generous to us in this, and it is in this particularly that we envy Earth.

"A difficulty with us is that we do our great deeds at too young an age and on distant worlds. We are all of us more or less retired by the age of twenty-five, and we have all had careers such as you would not believe. We come home then to live maturely on our mature world. It's perfect, of course, but of a perfection too small. We have everything — except the one thing that matters, for which we cannot even find a name."

I talked to many of the intelligent Camiroi on our short stay there. It was often difficult to tell whether they were talking seriously or whether they were mocking me. We do not as yet understand the Camiroi at all. Further study is recommended.

— CHARLES CHOSKY
Chief of Field Group

From the ephemeris of Holly Holm, anthropologist and schedonahthropologist.

Camiroi, the word is plural in form, is used for the people in both the single and plural and for the planet itself.

The civilization of Camiroi is more mechanical and more scientific than that of Earth, but it is more disguised. Their ideal machine shall have no moving parts at all, shall be noiseless and shall not look like a machine. For this reason, there is something pastoral about even the most thickly populated districts of Camiroi City.

The Camiroi are fortunate in the natural furnishings of their planet. The scenery of Camiroi conforms to the dictate that all repetition is tedious, for there is only one of each thing on that world. There is one major continent and one minor continent of quite different character; one fine cluster of islands of which the individual isles are of very different style; one great continental river with its seven branches flowing out of seven sorts of land; one complex of volcanoes; one great range of mountains, one titanic waterfall with her three so different daughters nearby; one inland sea, one gulf, one beach which is a three hundred and fifty mile crescent passing through seven phases named for the colors of iris; one great rain forest, one palm grove, one leaf-fall grove, one of evergreens and one of eodendrons; one grain bowl, one fruit bowl, one pampas, one parkland; one desert, one great oasis; and Camiroi City is the one great city. And all these places are unexcelled of their kind.

There are no ordinary places on Camiroi!

Travel being rapid, a comparatively poor young couple may go

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from anywhere on the planet to Green Beach, for instance, to take their evening meal, in less time than the consumption of the meal will take them, and for less money than that reasonable meal will cost. This easy and frequent travel makes the whole world one community.

The Camiroi believe in the necessity of the frontier. They control many primitive worlds, and I gather hints that they are sometimes cruel in their management. The tyrants and proconsuls of these worlds are young, usually still in their teens. The young people are to have their careers and make their mistakes while in the foreign service. When they return to Camiroi they are supposed to be settled and of tested intelligence.

The earning scale of the Camiroi is curious. A job of mechanical drudgery pays higher than one of intellectual interest and involvement. This often means that the least intelligent and least able of the Camiroi will have more wealth than those of more ability. "This is fair," the Camiroi tell us. "Those not able to receive the higher recompense are certainly entitled to the lower." They regard the Earth system as grossly inequal, that a man should have both a superior job and superior pay, and that another man should have the inferior of both.

Though official offices and jobs are usually filled by lot, yet persons can apply for them for their own reasons. In special conditions there might even be competition for an assignment, such as directorship of trade posts where persons (for private reasons) might wish to acquire great fortunes rapidly. We witnessed confrontations between candidates in several of these campaigns, and they were curious.

"My opponent is a three and seven," said one candidate, and then he sat down.

"My opponent is a five and nine," said the other candidate. The small crowd clapped, and that was the confrontation or debate.

We attended another such rally.

"My opponent is an eight and ten," one candidate said briskly.

"My opponent is a two and six," said the other, and they went off together.

We did not understand this, and we attended a third confrontation. There seemed to be a little wave of excitement about to break here.

"My opponent is an old number four," said one candidate with a voice charged with emotion, and there was a gasp from the small crowd.

"I will not answer the charge,"

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said the other candidate shaking with anger. "The blow is too foul, and we had been friends."

We found the key then. The Camiroi are experts at defamation, but they have developed a shorthand system to save time. They have their decalog of slander, and the numbers refer to this. In its accepted version it runs as follows:

MY OPPONENT (1) is personally moronic. (2) is sexually incompetent. (3) flubs third points in Chuki game. (4) eats Mu seeds before the time of the summer solstice. (5) is ideologically silly. (6) is physically pathetic. (7) is financially stupid. (8) is ethically weird. (9) is intellectually contemptible. (10) is morally dishonest.

Try it yourself, on your friends or your enemies! It works wonderfully. We recommend the listing and use to Earth politicians, except for numbers three and four which seem to have no meaning in Earth context.

The Camiroi have a corpus of proverbs. We came on them in Archives, along with an attached machine with a hundred levers on it. We depressed the lever marked Earth English, and had a sampling of these proverbs put into Earth context.

A man will not become rich by raising goats, the machine issued.

Yes, that could almost pass for an Earth proverb. It almost seems to mean something.

Even buzzards sometimes gag. That has an Earth sound also.

It's that or pluck chickens.

"I don't believe I understand that one," I said.

"You think it's easy to put these in Earth context, you try it sometime," the translation machine issued. "The proverb applies to distasteful but necessary tasks."

"Ah, well, let's try some more," said Paul Piggott. "That one."

A bird in the hand is worth two in the bush, the machine issued abruptly.

"But that is an Earth proverb word for word," I said.

"You wait I finish it, lady," the translation machine growled. "To this proverb in its classical form is always appended a cartoon showing a bird fluttering away and a man angrily wiping his hand with some disposable material while he says "A bird in the hand is *not* worth two in the bush."

"Are we being had by a machine?" our leader Charles Chosky asked softly.

"Give us that proverb there," I pointed one out to the machine.

There'll be many a dry eye here when you leave, the machine issued.

We left.

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"I may be in serious trouble," I said to a Camiroi lady of my acquaintance, "Well, aren't you going to ask me what it is?"

"No, I don't particularly care," she said. "But tell me if you feel an absolute compulsion to it."

"I never heard of such a thing," I said. "I have been chosen by lot to head a military expedition for the relief of a trapped force on a world I never heard of. I am supposed to raise and supply this force (out of my private funds, it says here) and have it in flight within eight oodles. That's only two hours. What will I do?"

"Do it, of course, Miss Holly," the lady said. "You are a citizen of Camiroi now, and you should be proud to take charge of such an operation."

"But I don't know how! What will happen if I just tell them that I don't know how?"

"Oh, you'll lose your citizenship and suffer mutilation. That's the law, you know."

"How will they mutilate me?"

"Probably cut off your nose. I wouldn't worry about it. It doesn't do much for you anyhow."

"But we have to go back to Earth! We were going to go tomorrow, but now we want to go today. I do anyhow."

"Earth kid, if I were you, I'd get out to Sky-Port awful fast."

By a coincidence (I hope it was no more than that) our political analyst Paul Piggott had been chosen by lot to make a survey (personally, minutely and interiorly, the directive said) of the sewer system of Camiroi City. And our leader Charles Chosky had been selected by lot to put down a rebellion of Groll's Trolls on one of the worlds, and to leave his right hand and his right eye as surety for the accomplishment of the mission.

We were rather nervous as we waited for Earth Flight at Sky-Port, particularly so when a group of Camiroi acquaintances approached us. But they did not stop us. They said good-by to us without too much enthusiasm.

"Our visit has been all too short," I said hopefully.

"Oh, I wouldn't say that," one of them rejoined. "There is a Camiroi proverb —"

"We've heard it," said our leader Charles Chosky. "We also are dry-eyed about leaving."

FINAL RECOMMENDATION. That another and broader Field Group be sent to study the Camiroi in greater detail. That a special study might fruitfully be made of the humor of the Camiroi. That no members of the first Field Group should serve on the second Field Group.

— R. A. LAFFERTY

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The Man Who Loved the Faioli

by ROGER ZELAZNY

John Auden didn't fear the Faioli, deadly though they were . . . for he was immune!

It is the story of John Auden and the Faioli, and no one knows it better than I. Listen —

It happened on that evening, as he strolled (for there was no reason not to stroll) in his favorite places in the whole world, that he saw the Faioli near the Canyon of the Dead, seated on a rock, her wings of light flickering, flickering, flickering and then gone, until it appeared that a human girl was sitting there, dressed all in white and weeping, with long black tresses coiled about her waist.

He approached her through the terrible light from the dying, half-dead sun, in which human eyes could not distinguish distances nor grasp perspectives properly (though his could), and he lay his right hand upon her shoulder and spoke a word of greeting and of comfort.

It was as if he did not exist, however. She continued to weep, streaking with silver her cheeks the color of snow or a bone. Her almond eyes looked forward as though they saw through him, and her long fingernails dug into the flesh of her palms, though no blood was drawn.

Then he knew that it was true, the things that are said of the Faioli — that they see only the living and never the dead, and

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that they are formed into the loveliest women in the entire universe. Being dead himself, John Auden debated the consequences of becoming a living man once again, for a time.

The Faioli were known to come to a man the month before his death — those rare men who still died — and to live with such a man for that final month of his existence, rendering to him every pleasure that it is possible for a human being to know, so that on the day when the kiss of death is delivered, which sucks the remaining life from his body, that man accepts it — no, seeks it! — with desire and with grace. For such is the power of the Faioli among all creatures that there is nothing more to be desired after such knowledge.

John Auden considered his life and his death, the conditions of the world upon which he stood, the nature of his stewardship and his curse and the Faioli — who was the loveliest creature he had seen in all of his four hundred thousand days of existence — and he touched the place beneath his left armpit which activated the necessary mechanism to make him live again.

The creature stiffened beneath his touch, for suddenly it was flesh, his touch, and flesh, warm and woman-filled, that he was touching, now that the sensations of life had returned to him. He knew that his touch had become the touch of a man once more.

"I said 'hello, and don't cry,'" he said, and her voice was like the breezes he had forgotten through all the trees that he had forgotten, with their moisture and their odors and their colors all brought back to him thus:

"From where do you come, man? You were not here a moment ago."

"From the Canyon of the Dead," he said.

"Let me touch your face." And he did, and she did.

"It is strange that I did not feel you approach."

"This is a strange world," he replied.

"That is true," she said. "You are the only living thing upon it."

And he said, "What is your name?"

She said, "Call me Sythia," and he did.

"My name is John," he told her, "John Auden."

"I have come to be with you, to give you comfort and pleasure," she said, and he knew that the ritual was beginning.

"Why were you weeping when I found you?" he asked.

"Because I thought there was nothing upon this world, and I

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was so tired from my travels," she told him. "Do you live near here?"

"Not far away," he answered. "Not far away at all."

"Will you take me there? To the place where you live?"

"Yes."

And she rose and followed him into the Canyon of the Dead, where he made his home.

They descended and they descended, and all about them were the remains of people who once had lived. She did not seem to see these things, however, but kept her eyes fixed upon John's face and her hand upon his arm.

"Why do you call this place the Canyon of the Dead?" she asked him.

"Because they are all about us here, the dead," he replied.

"I feel nothing."

"I know."

They crossed through the Valley of the Bones, where millions of the dead from many races and worlds lay stacked all about them, and she did not see these things. She had come to the graveyard of all the worlds, but she did not realize this thing. She had encountered its tender, its keeper, and she did not know what he was, he who staggered beside her like a man drunken.

John Auden took her to his home — not really the place where he lived, but it would be now — and there he activated ancient circuits within the building within the mountain. In response light leaped forth from the walls, light he had never needed before, but now required.

The door slid shut behind them, and the temperature built up to a normal warmth. Fresh air circulated. He took it into his lungs and expelled it, glorying in the forgotten sensation. His heart beat within his breast, a red warm thing that reminded him of the pain and of the pleasure. For the first time in ages, he prepared a meal and fetched a bottle of wine from one of the deep, sealed lockers. How many others could have borne what he had borne?

None, perhaps.

She dined with him, toying with the food, sampling a bit of everything, eating very little. He, on the other hand, glutted himself fantastically, and they drank of the wine and were happy.

"This place is so strange," she said. "Where do you sleep?"

"I used to sleep in there," he told her, indicating a room he had almost forgotten; and they entered and he showed it to her, and she beckoned him toward the bed and the pleasures of her body.

That night he loved her, many times, with a desperation that burnt away the alcohol and push-

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ed all of his life forward with something like a hunger, but more.

The following day, when the dying sun had splashed the Valley of the Bones with its pale, moonlike light, he awakened and she drew his head to her breast, not having slept herself, and she asked him, "What is the thing that moves you, John Auden? You are not like one of the men who live and who die, but you take life almost like one of the Faioli, squeezing from it everything that you can and pacing it at a tempo that bespeaks a sense of time no man should know. What are you?"

"I am one who knows," he said. "I am one who knows that the days of a man are numbered and one who covets their dispositions as he feels them draw to a close."

"You are strange," said Sythia. "Have I pleased you?"

"More than anything else I have ever known," he said.

And she sighed, and he found her lips once again.

They breakfasted, and that day they walked in the Valley of the Bones. He could not distinguish distances nor grasp perspectives properly, and she could not see anything that had been living and now was dead. So, of course, as they sat there on a shelf of stone, his arm about her shoulders, he pointed out to her the rocket which had just come down from out of the sky, and she squinted after his gesture. He indicated the robots, which had begun unloading the remains of the dead of many worlds from the hold of the ship, and she cocked her head to one side and stared ahead, but she did not really see what he was talking about.

Even when one of the robots lumbered up to him and held out the board containing the receipts and the stylus, and as he signed the receipt for the bodies received, she did not see or understand what it was that was occurring.

In the days that followed, his life took upon it a dreamlike quality, filled with the pleasure of Sythia and shot through with certain inevitable streaks of pain. Often, she saw him wince, and she asked him concerning his expressions.

And always he would laugh and say, "Pleasure and pain are near to one another," or some thing such as that.

And as the days wore on, she came to prepare the meals and to rub his shoulders and mix his drinks and to recite to him certain pieces of poetry he had somehow once come to love.

A month. A month, he knew,

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and it would come to an end. The Faioli, whatever they were, paid for the life that they took with the pleasures of the flesh. They always knew when a man's death was near at hand. And in this sense, they always gave more than they received. The life was fleeing anyway, and they enhanced it before they took it, away with them, to nourish themselves most likely, price of the things that they'd given.

John Auden knew that no Faioli in the entire universe had ever met a man such as himself.

Sythia was mother-of-pearl, and her body was alternately cold and warm to his caresses, and her mouth was a tiny flame, igniting wherever it touched, with its teeth like needles and its tongue like the heart of a flower. And so he came to know the thing called love for the Faioli called Sythia.

Nothing must really happen beyond the loving. He knew that she wanted him, to use him ultimately, and he was perhaps the only man in the universe able to gull one of her kind. His was the perfect defense against life and against death. Now that he was human and alive, he often wept when he considered it.

He had more than a month to live.

He had maybe three or four.

This month, therefore, was a price he'd willingly pay for what it was that the Faioli offered.

Sythia racked his body and drained from it every drop of pleasure contained within his tired nerve cells. She turned him into a flame, an iceberg, a little boy, an old man. When they were together, his feelings were such that he considered the *consolamentum* as a thing he might really accept at the end of the month, which was drawing near. Why not? He knew she had filled his mind with her presence, on purpose. But what more did existence hold for him? This creature from beyond the stars had brought him every single thing a man could desire. She had baptized him with passion and confirmed him with the quietude which follows after. Perhaps the final oblivion of her final kiss was best after all.

He seized her and drew her to him. She did not understand him, but she responded.

He loved her for it, and this was almost his end.

There is a thing called disease that battens upon all living things, and he had known it beyond the scope of all living men. She could not understand, woman-thing who had known only life.

So he never tried to tell her, though with each day the taste

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of her kisses grew stronger and saltier, and each seemed to him a strengthening shadow, darker and darker, stranger and heavier, of that one thing which he now knew he desired most.

And the day would come. And come it did.

He held her and caressed her, and the calendars of all his days fell about them.

He knew, as he abandoned himself to her ploys and the glories of her mouth, her breasts, that he had been ensnared, as had all men who had known them, by the power of the Faioli. Their strength was their weakness. They were the ultimate in Woman. By their frailty they begat the desire to please. He wanted to merge himself with the pale landscape of her body, to pass within the circles of her eyes and never depart.

He had lost, he knew. For as the days had vanished about him, he had weakened. He was barely able to scrawl his name upon the receipts proffered him by the robot who had lumbered toward him, crushing ribcages and cracking skulls with each terrific step. Briefly, he envied the thing. Sexless, passionless, totally devoted to duty. Before he dismissed it, he asked it, "What would you do if you had desire and you met with a thing that gave you all the things you wished for in the world?"

"I would — try to — keep it," it said, red lights blinking about its dome, before it turned and lumbered off, across the Great Graveyard.

"Yes," said John Auden aloud, "but this thing cannot be done."

Sythia did not understand him, and on that thirty-first day they returned to that place where he had lived for a month, and he felt the fear of death, strong, so strong, come upon him.

She was more exquisite than ever before, but he feared this final encounter.

"I love you," he said finally, for it was a thing he had never said before, and she kissed him.

"I know," she told him, "and your time is almost at hand, to love me completely. Before the final act of love, my John Auden, tell me a thing: What is it that sets you apart? Why is it that you know so much more of things-that-are-not-life than mortal man should know? How was it that you approached me on that first night without my knowing it?"

"It is because I am already dead," he told her. "Can't you see it when you look into my eyes?"

"I do not understand," she said.

"Kiss me and forget it," he told her. "It is better this way."

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But she was curious and asked him (using the familiar for the first time), "How then dost thou achieve this balance between life and that-which-is-not-life, this thing which keeps thee conscious yet unliving?"

"There are controls set within this body I happen, unfortunately, to occupy. To touch this place beneath my left armpit will cause my lungs to cease their breathing and my heart to stop its beating. It will set into effect an installed electro-chemical system, like those my robots (invisible to you, I know) possess. This is my life within death. I asked for it because I feared oblivion. I volunteered to be gravekeeper to the universe, because in this place there are none to look upon me and be repelled by my death-like appearance. This is why I am what I am. Kiss me and end it."

But having taken the form of woman, or perhaps being woman all along, the Faioli who was called Sythia was curious, and she said, "This place?" and she touched the spot beneath his left armpit.

With this he vanished from her sight, and with this also, he knew once again the icy logic that stood apart from emotion. Because of this, he did not touch upon the critical spot once again. Instead, he watched her as she sought for him about the place where he once had lived.

She checked into every closet and adytum, and when she could not discover a living man, she sobbed once, horribly, as she had on that night when first he had seen her. Then the wings flickered, flickered, weakly flickered, back into existence upon her back, and her face dissolved and her body slowly melted. The tower of sparks that stood before him then vanished, and later on that crazy night during which he could distinguish distances and grasp perspectives once again he began looking for her.

And that is the story of John Auden, the only man who ever loved a Faioli and lived (if you could call it that) to tell of it. No one knows it better than I.

No cure has ever been found. And I know that he walks the Canyon of the Dead and considers the bones, sometimes stops by the rock where he met her, blinks after the moist things that are not there, wonders at the judgment that he gave.

It is that way, and the moral may be that life (and perhaps love also) is stronger than that which it contains, but never that which contains it. But only a Faioli could tell you for sure, and they never come here any more.

—ROGER ZELAZNY

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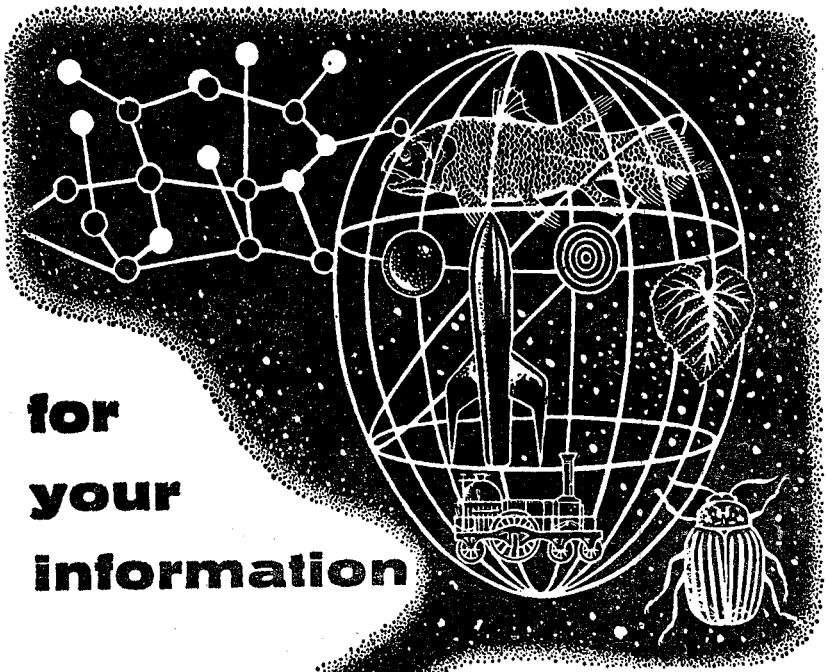

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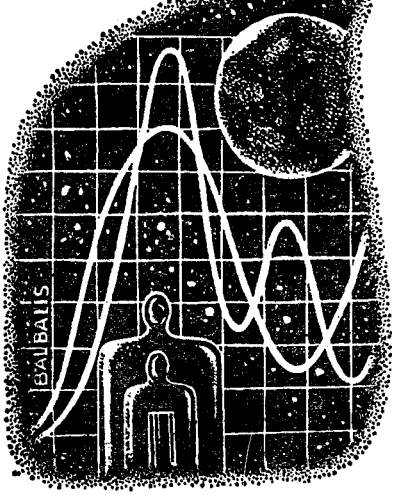

ANOTHER LOOK AT ATLANTIS

This is a story I was told some thirty-five years ago by a novelist who swore that it actually happened. It concerned another writer whom both of us knew and who wrote a great deal for a weekly family magazine. One day the editor of that magazine, after an evening of spirited discussion with his wife and her

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two sisters, asked him to write a definitive article on Atlantis. If necessary, it could be a series of articles, but they should be *definitive,* clearing up the whole problem once and for all time!

The writer, whose knowledge of Atlantis was about equal to that of any other educated man who has not made a special study of the subject, phoned a librarian he knew and told him (this was in Europe, where librarians are usually male) that he had to read up on Atlantis and would be over the following morning. Would the librarian be so good and assemble the most important books for him?

When he arrived at the library there was a desk reserved for him, and it was piled high with books. The librarian explained that these were the most recent works and a few important older ones. And there was a paper-bound sheaf of mimeographed pages. This was what the librarian called "a reasonably complete bibliography" — of about 1700 titles. After his friend had finished with the books he had pulled out, he might wish to check through the bibliography and mark what else he wanted to read. The library would not have all of these titles, of course, but a few score of them probably could be turned up.

I don't know what happened to that "definitive" article — chances are it was never written.

However, other people who did not feel beaten down by the volume of earlier literature kept writing books on Atlantis. As has been the case in the past, they ranged over the whole spectrum from "inner visions" to sober attempts to find an interpretation that satisfied both historical tradition and recognized facts. My reason for bringing up the nearly-talked-to-death Atlantis theme once more is that something very unusual has taken place in recent years: there are a few new facts!

No, it is not yet the "definitive" story that magazine editor wanted so desperately. For the core of the Atlantis problem is that the "definitive" solution involves an impossibility — namely that of reading the mind of a man who died over 2300 years ago.

I mean, of course, Plato, who lived from about 427 B.C. to 347 B.C.

Atlantis is mentioned in two of his works, the two "dialogues" ("discussions" would be a better label) *Timaios* and *Kritias.* They are the only, repeat, *only* sources. Every other mention of Atlantis is based on these writings of Plato. There are *no* independent sources.

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Nor did Plato claim to have any direct and personal knowledge. He had one of his characters quote Solon, a historiacl figure (*ca.* 638 B.C. to 559 B.C.), who was Archon of Athens (beginning in 594 B.C.) and who is known to have travelled extensively. So the true and again only source of the Atlantis story, if we accept Plato's word, is Solon. Please note that Solon was dead for 150 years when Plato was a young man; it is precisely as if a young man of our time told of something that, through family tradition, goes back to George Washington.

I just said that the original source was Solon *if* we accept Plato's statements. As for that there can be only two opinions: we can either believe that Plato wrote down what Solon originally said (admitting that Plato's version might not be an absolutely accurate rendering) or else we can believe that it was a fable invented for the purpose of providing a setting for Plato's "ideal state."

Aristotle, Plato's pupil, was convinced that Atlantis had been invented for philosophizing purposes. The Roman Pliny the Elder, four centuries later, just burdened Plato with the responsibility, sounding somewhat petulant, possibly because in all his omnivorous reading he had never found another source. The picture is the same with all the authors of the classical period: they either took Atlantis to be a "philosophical parable" or else just wrote "according to Plato." Nobody got excited one way or the other.

After the interval of one and a half millenia, when nobody had the time or inclination to think about such problems, a surprising number of learned men decided that Atlantis must have been based on a dim knowledge of the existence of a continent on the other side of the ocean. The Spanish historian Fracisco Lopez de Gomara (1510-1560) was the first to say that America must have been meant. Sir Francis Bacon (1561-1626) said the same, and the German educator Janus Joannes Bircherod even coined the sentence *orbe novo non novo* "the New World is not new") in 1663. These thoughts were still echoed two centuries later by the great Alexander von Humboldt.

The first man to have accepted the story as literally true seems to have been the learned and versatile Jesuit Father Athanasius Kircher (1601-1680), who invented the magic lantern and thought that he had deciphered hieroglyphic writing. He pictured Atlantis as a small continent in the Atlantic Ocean. (Fig. 1.).

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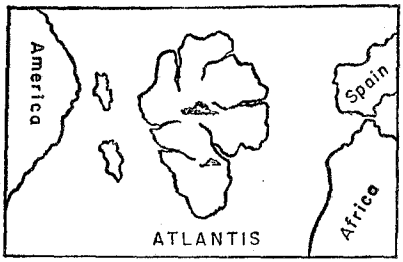

Fig. 1. Atlantis according to Kircher. from his book *Mondus subterraneus* (1644). This tracing has been inverted, in the original north is at the bottom.

Though he said in his book that the island is pictured in precise agreement with Plato's description this is not really so, as we'll see. All that can be said in favor of it is that the small continent is about the size stated by Plato, that it has a mountain and several large rivers.

But before we go on it seems to be practical to see what Plato actually said. The information provided in the *Timaios*, the earlier of the two dialogues, is relatively meager. The man who tells about Atlantis in both dialogues is one Kritias, grandson of a man by the same name, who was a son of Dropides, who was a personal friend of Solon. Solon, Kritias the Younger, reports, travelled to Egypt; the actual and historical date for that trip is somewhere between 590 B.C. and 580 B.C. He went to the city of Sais and had long conversations with the priests there, who told him that their goddess Neith, whom the Greeks call Athena, had founded both cities, Sais 8000 years ago and Athens 9000 years ago. At that time there existed an island beyond the pillars of Hercules: "it was larger than Lybia and Asia put together."

This last sentence needs two emendations. One is that "Asia" means what we call Asia minor, and the other is that the original Greek sentence contains a word that cannot be translated by just one other word. That word is *meizon*. The customary translation is "larger" in the meaning of "greater in extent." But the word can also mean "more powerful," and since the story then goes on to talk about an invasion from Atlantis this translation sounds more likely. The priests said that this invasion had the purpose of subjugating the eastern portion of the Mediterranean and that they almost succeeded but were finally beaten by the Athenians. "Afterwards there occurred violent earthquakes and floods and in a single day and night of rain your warlike men in a body sank into the earth, and the island of Atlantis in a like manner disappeared and was sunk beneath the sea."

There is no more about Atlan-

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tis in the *Timaios,* and if the other dialogue which is named after Kritias did not exist, nobody would have paid much attention to the ancient invasion and ancient catastrophe. Everybody would have accepted Aristotle's commentary: "He who invented it [namely Atlantis] also destroyed it."

But it was the *Kritias* that excited everybody, because here the narrator went into detail. On the island in question there dwelled people, and Poseidon fell in love with one of the girls. He lived with her on a small mountain and begat five pairs of twins, all male and all future kings. He surrounded the mountain with several circular courses of water "so that no man could get to the island for ships and voyages were not yet heard of." That these concentric courses of water were made by a god must be taken to mean that this was a natural formation. But the later kings, after the population had become numerous, embellished on this formation with walls and canals through the circular courses of land, so that ships could pass from one into the other. The water courses were spanned by a bridge which, of course, had to have three sections. (This explains why the word "bridge" is used in the singular, though three bridges are involved.)

The plan of the finished city is shown in Fig. 2. The central island, with the stele inscribed with the laws, a temple of Poseidon and the king's palace, had a diameter of 5 stadia*. The innermost circular water course was one stadion in width, and the land circle around it had a width of two stadia. Then followed a water circle with a width of two stadia, also called the Inner Harbor; a circle of land, holding a

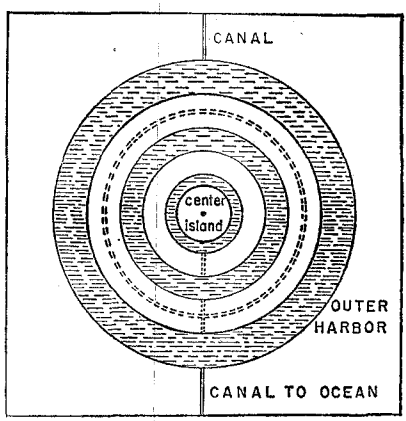

Fig. 2. The Center of the City.
This is a scale drawing of the center section of the city, as described by Plato. The broken circle indicates the race course.

* A stadion was divided into 600 feet, Greek. Its length is now taken to have been 185 meters, or 607 feet, U. S. measure. The secondary meaning — of "race course" — of this word is derived from the fact that the race course at Olympia was one stadion in length.

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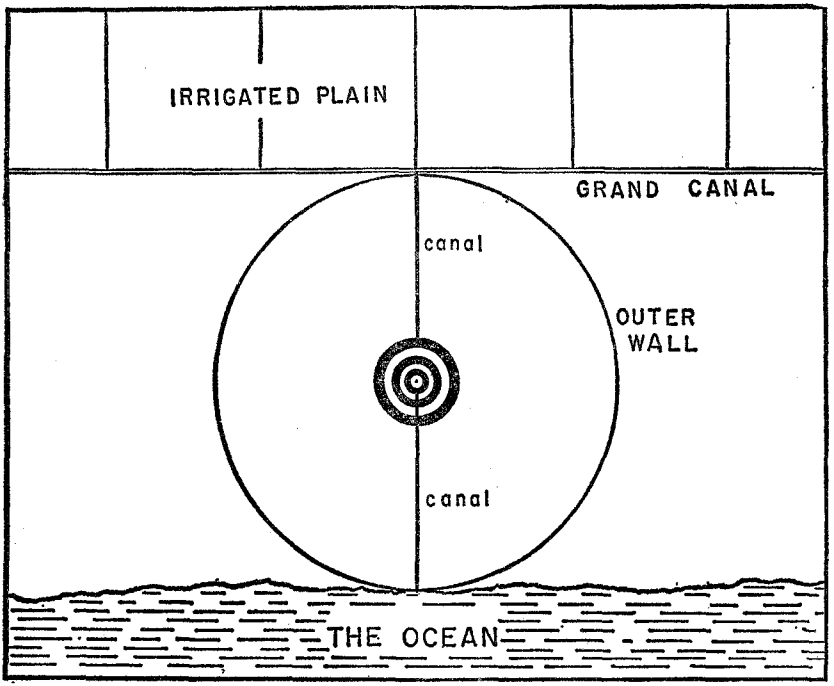

Fig. 3. Overall plan of the City.

"hippodrome" or circle course for race horses with a width of three stadia came next, surrounded by a water course, the Outer Harbor, of a width of three stadia.

A straight canal, half a stadion in width and one and a half stadia in depth, stretched from the Outer Harbor to the ocean. It was fifty stadia long, so that the distance from the center of the island to the shore was 63½ stadia. At that distance a high circular wall was built that went all around the city; on the side away from the ocean it touched the Grand Canal. The Grand Canal was 10,000 stadia in length, forming a rectangle of 2000 by 3000 stadia. The area was divided into 600 squares by irrigation ditches, each 100 feet in width. (Fig. 3.)

The overall idea seems to have been that several rivers emptying into the Grand Canal would keep it full of water and fill the irrigation ditches, with the overflow going into the circular Outer

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Harbor and, finally, through the fifty-stadia canal into the ocean. A modern hydraulics engineer would be quite unhappy with such an open system lacking all locks. Two years of drought in the interior, and ocean water would storm in, going the other way and ruining all crops. But let's not quibble here but go on. The total area — the irrigated plain, the city itself and the space between the irrigated plain and the seashore — would measure 3000 by 2127 stadia, or close to 6.4 million square stadia, approximately 77,600 square miles. Since there were ten kingdoms on the island — assuming that they were all the same size, which is not stated anywhere explicitly — the total area of the island should have been about 800,000 square miles, roughly three times the size of Texas.

Even this condensed retelling shows that there is an enormous difference between the two Atlantis narratives in Plato's work. The *Timaios,* with its recital about an invasion and military engagements terminated by a natural catastrophe, does convey the impression that an older tale is here merely retold. But the *Kritias,* with its enormous elaboration of arrangements and dimensions, plus such detail as the color of the stones in the various walls and the kinds of metal used for ornamentation and reinforcement, is obviously the result of much pondering about what an outstanding city, originally conceived by a god and embellished by godlike kings should be like.

The "searchers for Atlantis," who accepted the story word for word, wall for wall and water course for water course, faced one major handicap, namely the great size. It prompted those who did not dare to doubt to look in all kinds of unlikely places. In sequence, southern Sweden, the Caucasus mountains, South America, Ceylon, Algiers and the western bulge of Africa were acclaimed as the place were Atlantis must have been — not withstanding the minor fact that all of them are still in existence well above sea level. And, of course, there was no trace of anything that could possibly date back to 9600 B.C.

Could something be wrong with the figures themselves?

More than one scholar has guessed at a confusion between solar years and periods of the moon. If the Egyptians spoke in terms of "moons" (of 30 days each) then 9000 "years" would shrink to 742 actual years. Since Solon heard the tale in about 590 B.C., the date would become 1332 B.C., a far more

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believable figure. But there is another possibility for a mistake. It is said in so many words in the *Kritias* that the Egyptian records had been translated into Egyptian from another language — it is not stated which one. Solon then translated them into Greek, and he may have taken the Egyptian written symbol for "100" to mean "1000." In that case the invasion would date 900 years before Solon's visit or about 1500 B.C., while the rectangular plain enclosed by the Grand Canal would measure 200 by 300 stadia or 23 by 34½ miles. The city itself would remain the same size, because all the figures involved are smaller than "100."*

The suggestion that the problem had been made intractable by such a simple mistake in translation was made by the seismologist Professor Anghelos Galanapoulos. Since Prof. Galanapoulos is Greek, he is throughly acquainted with all the Greek legends and with everything by and about Plato. And Prof. Galanapoulos has been thinking about Atlantis for a long time.

Under 36½° northern latitude and 25½° eastern longitude in the blue Aegaean Sea there lies

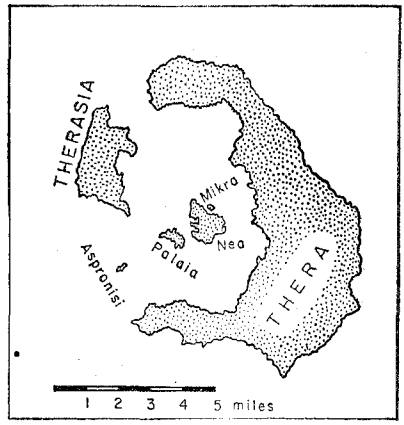

Fig. 4. The Santorini group in the Aegaean Sea.

a small group of islands, collectively known as the Santorini group. It consists of two large islands, Thera and Therasia, and a few small ones, namely Aspronisi ("white island") and three with names that have the word *kameni* ("burning") in common. They are Palaia Kameni, Nea Kameni and Mikra Kameni, the "old burning island," the new one and the tiny one. They are all volcanic. In 1866 there was a long-lasting eruption that was carefully investigated by a French scientist named Fouque. With the aid of data furnished by Fouque, Professor Melchior Neumayr of the University of Vienna drew up a table of known eruptions.

There had been one in 198 B.C., during which the island of

* This assumes, of course, that the plan of the city was a part of Solon's tale; most modern commentators have strong doubts about that.

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Palaia Kameni came into existence. Another eruption in 726 A.D. enlarged this island. In 1573 Mikra Kameni was formed. In 1650 there was another eruption that produced only minor changes, but in 1707 there began one that lasted five years, with Nea Kameni as the result. And the one in 1866 formed an island that was named Georgios Island but soon combined with Nea Kameni.

In, say, 250 B.C. the Santorini group consisted of Thera and Therasia only; in 1890 it looked as shown in Fig. 4.

To the geologists of the latter part of the nineteenth century the shapes of Thera and Therasia suggested that they were remaining pieces of a former volcano that had covered the whole area of the Santorini group and that had blown up at some time in the past. Since the eastern Mediterranean is an area of early literacy, but since no classical record made any mention of such a catastrophe, the great eruption must have taken place before writing, say before 1000 B.C. The explosion of Krakatoa in the Sunda Sea, that took place in late August of 1883 and threw a cubic mile of pumice and other volcanic ejecta into the atmosphere, came just in time to demonstrate what a volcano could do. The catastrophe that left Thera and Therasia must have been of the type of the Krakatoa explosion, and probably even bigger and more violent.

Of course, Thera and Therasia are covered with thick layers of pumice and volcanic ashes. It probably would never have occurred to anybody to start excavations to see whether anything could be found underneath these layers. If the thought *had* occurred to anybody, it is doubtful whether money for such a project could have been found. But science was aided by a commercial venture at this point.

Greek business men "mined" the pumice for making cement that was needed on the mainland for construction purposes. And under the pumice and ashes remains of old buildings were found! Household utensils of shaped clay were recovered. No trace of inscriptions was found and virtually no metallic objects. But Fouque described two golden rings, implying trade since there is no gold locally. Too bad that one could only guess at the date of this early inhabitation.

I have to admit that I do not know who was the first to connect the ancient eruption of Santorini with the end of the Minoan culture on Crete. Early Crete had

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an astonishing culture, with large cities and enormous temples, and it was a maritime power. As knowledge about ancient Crete grew, its role as the dominant sea power in the eastern Mediterranean became so clear that some scholars began to wonder whether the early Cretans were not the model for the sea-going Phaiakians of Homer's *Odyssey*.

And since there are many resemblances between the sailors from Homer's Scheria and Plato's Atlanteans, and since both resemble the ancient Cretans, it has been suggested at least twice — by the American E. S. Balch in 1921 and the German W. Brandenstein in 1952 — that Plato's Atlantis was mainly a poetic memory of the Cretans.

Legends, poetry, speculation and philosophy aside, there was a very real mystery about the end of the Minoan culture on Crete. Before about 1400 B. C. there were large cities, but some time after that date there were only small rural settlements. And most of the archeologists who tried to reconstruct life during the Minoan culture slowly became convinced that there was a sudden "event" that marked the beginning of the change. In places it looked as if artisans had dropped their tools in the middle of their normal activities and run away. The most obvious explanation was that there had been a sudden call to arms to ward off an invasion. It sounded simple and also sounded logical, but there were difficulties. A would-be invader would first have been engaged by the large Cretan fleet, so that a sudden call to arms was not too likely. Besides, who could have invaded Crete?

Fig. 5. The area covered by volcanic ash from the eruption of 1500 B.C.

It was an event, all right. But the event was the eruption of Santorini — which is now estimated to have thrown about four times the volume of pumice and cinders into the atmosphere as Krakatoa did in 1883. While the sudden appearance of enormous black clouds must have been frightening, the fall of cinders and ashes at such a distance could not have been too serious. But such an eruption of an island

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volcano produces an enormous tidal wave, the one caused by the Krakatoa explosion drowned over 36,000 people on the neighboring islands. The wave from the Santorini explosion must have smashed the whole Cretan fleet, probably assembled along the north shore of the island. It killed an unknown number of Cretans, and it caused the end of the Minoan culture, eliminating it much faster and more thoroughly than any invasion by human enemies would have done.

The effects of the distant volcanic eruption were felt as far away as Egypt, though in Egypt the effects were psychological — darkness for a period of time — rather than physical.

So here we have, in the right area and fairly closely at the right time, the great natural catastrophe of which Solon spoke. And it fits the general picture: the Greeks would have learned about it from the Egyptians. The Egyptians could also have told Solon about invasions from the West. We know that there were such invasions by what the Egyptians call the "sea people." Actually these invasions took place about 250 years after the Santorini catastrophe; but, since all this was told to Solon another 600 years later, the Egyptians may have confused the sequence of events. Or else Solon did not understand too well what they said. Or else Plato thought that it would make a better story if a human invasion was terminated by a natural catastrophe.

The new knowledge about the approximate date of the Santorini catastrophe as the reason for the end of the Minoan culture on Crete has certainly shed new light on the "sources" of the Atlantis story. It does seem more likely now that Solon actually brought the tale from Egypt and the manuscript of the older *Kritias* — believed by most scholars to have been Plato's literary invention — might have existed.

But Professor Galanopoulos went one step farther. Knowing, from personal observation, that Santorini was inhabited before the catastrophe, he has superimposed the scale map of Plato's city on the map of the Santorini group. He found that the whole group would fit inside the Outer Wall of Plato's city and that the city itself would fit into the space between Thera and Therasia. As any one of my readers can try for himself, there is such a fit, though a rather poor one.

Personally I consider the similarity in size just a coincidence. I don't think that Santorini *was* Atlantis . . . though there can hardly be any doubt that Santorini was the main cause of the Atlantis story. **WILLY LEY**

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SPARE THAT TREE

by C. C. MacAPP

Illustrated by SMITH

Any detective can locate a missing tree. It takes an expert to be one!

I

Inspector Judson Kruger was a tanned, thickset man with stiff black hair, heavy eyebrows, and jowls to make a razor cringe. Just now, though his wide mouth was a taut line, his face was carefully immobile. So was the rest of him. He stood in a shallow wooden tray with sled-runners under it, just outside a gate in a high, wire-mesh fence. He wore a green suit and green shirt, the greenest he'd been able to find. He was hatless; also shoeless and sockless. His large feet were planted up to the ankles in soft moist loam.

The sign on the gate was repeated in several languages. The English version read, "KEEP OUT. PLANT REFUGE. OFF-LIMITS TO ALL ANIMALS

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MASSING OVER SEVENTEEN (17.0) GRAMS."

A peculiar large machine was clattering along the roadway just inside the fence. It was long, low and flexibly jointed on eight pairs of small wheels. Elevated turrets, fore and aft, rotated, aiming batteries of eyes resembling the bottoms of beer bottles. A long proboscis swept back and forth ahead, sniffing at flowers and weeds beside the road. Other attachments hinted at other senses. Now and then a short hose would rear itself and squirt a stream of something — nutrient, Kruger guessed — at some shrub. Once a small cage elevated itself to release a swarm of insects.

On a grimmer note, folded atop the machine were various grapples. Some of them looked capable of seizing a man and throwing him over the fence.

The machine rattled out of sight. Kruger listened for a moment, glanced around quickly, and stepped from the tray, shaking loam from his feet. Seizing a short length of rope, he dragged the tray-sled toward the gate. He opened that, got the sled through and closed the gate. Hastily, he dragged the sled across the road and into the thicket beyond, then returned to obliterate the drag-marks on the road as well as he could.

He had pinpointed his objective from one of the sightseeing airbusses allowed to fly over this refuge. It was perhaps a mile from the fence, in an area that served as a stop-over for non-resident plants. He struggled through the brush, which was local flora and not closely tended, muttering various words and phrases when he encountered thorns or when the sled got snagged. Once a flitbot drifted over, and he had to hop hastily into the tray and stand still. If it saw him, it probably assumed he was some exotic plant sprouted from a stray seed. He went on.

In half an hour he reached the inner edge of the thicket and looked out over grassland, contoured in gentle slopes with irrigation pipes laid along the ridges, jetting little fountains of water. The grass was unmowed and unkempt. Spotted about the slopes were shrubs of various kinds, each with its small circle of cleared soil. Farther on were trees, their bases hidden from Kruger by intervening ridges. Among those trees was the one he sought.

A sound like several angry judges clearing their throats drew his attention to his left.

Hastily he stepped into his tray. A flitbot was moving his way, most of its eye-tentacles

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extended ahead of it. He saw that it was following some insect that buzzed low over the grass. On it came, rumbling ominously.

Not far from Kruger the insect lit, and the machine pounced. A vacuum-cleaner extension shot out. But the prey — a medium-sized beetle — was quicker. It zoomed upward, buzzing frantically, dodged the questing tentacle, flashed in an arc and headed for the thicket where Kruger stood.

The flitbot jerked into pursuit.

It took all Kruger's willpower to stand still. Like a homing missile, the insect shot toward him, did a loop before his horrified eyes and lit on his left cheek. Instantly, the pursuing tentacle snaked out, hit Kruger's cheek ringingly and devoured the insect with a vengeful sucking sound. Kruger heard chitin crunch somewhere in the machine's interior. He also heard his own involuntary yell, "Ouch! Damn it, you don't have to take my ear too!"

The machine turned abruptly to hover before him. "Did you say something?"

Kruger's mind wasn't working well — it was too busy restraining his legs. He stammered, "Uh, no. It was just the wind in my hai — my tassels."

The flitbot glared suspiciously. "Vegetable, animal, mineral or 'bot?"

"V-vegetable."

The machine relaxed. "Don't be shy. I can see you're new here. Lots of plants talk, you know, in one way or another. You're the first I've heard speak English, though. Why did they plant you here at the edge of the thicket?"

"I — I like it here. I get just enough sun, and I can look out over the grass. Wha-what did that beetle do?"

The machine said grimly, "It was getting ready to nibble on a young, healthy grass blade. That kind always does, sooner or later. They never learn." The machine chuckled. "Well, it's fertilizer now, so we won't complain, eh?" It suddenly clucked and sent tentacles downward. "Why, look at your poor roots! They're half uncovered!" Crooning, it patted his feet gently, then pushed loam over them. "Are you sure you're all right- Do you want a squirt of Nitro-Vite or anything?"

"Un . . . not right now, thanks. I'll just soak up a little sun."

He waited a while, shaking, after the machine left. Then, with a thorough look around, he stepped out of the sled, lifted it and carried it ahead of him. It was an awkward burden, but he

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wasn't going to drag it through the grass. His own tracks were risk enough.

He got soaked crossing irrigation pipes, and kept imagining he heard machines coming, but finally he reached the trees, put the sled down, caught his breath and began dragging the sled. Within fifteen minutes he reached the small clearing he sought. He found cover beneath hanging branches, wiggled his toes into the now-muddy loam, and stared at the lone tree in the clearing.

II

It was a lovely tree. There was no denying that. It stood perhaps twenty feet tall, symmetrical and slim, with a graceful taper. The limbs were tastefully placed around the trunk, growing out almost horizontally with a slight up-turn at the ends. The bark was smooth and neat, a pleasing cinnamon brown. The needles, a light and warm shade of green, were like long pine needles but less stiff so that they drooped in graceful curves. At the very top was a blossom — six or seven dainty upright blades, warm pink, like a maiden's blush.

Cautiously, he reached under his soaked jacket and drew out a small camera. "Damn it. I hope the water didn't get into this," he muttered. He checked the setting, raised the camera to his face and peered into the viewfinder, centering on the tree.

A thing like a steel cable whipped around his wrist, knocking the camera from his grasp. "Aha!" a harsh voice growled. "Gotcha!"

This machine had sneaked up on him very quietly. It was about his own height, but broader, especially in the lower body, from which four metal legs sprouted, ending in big dislike feet with soft padding on them. There were four tentacles at shoulder height. One of them had elongated itself to become the steely strand that gripped his wrist. The head, atop a pipelike neck, was circled with beer-bottle eyes and had various electronic gear growing from it. Kruger jerked futilely to get free. He snarled, "Let go, damn it! What the hell are *you?*"

The thing said indignantly, "I'm a robocop. Don't you see my badge? I guess, though, it don't show up so good against my stainless steel chest."

Kruger blinked. "Oh. Well, for heaven's sake let go of my, er, branch. I haven't done anything."

The machine made a sound that would go well with a sneer. "Don't pull that on *me*, Buster. We're not hicks here. The flitbot you talked to went back and found you gone and saw your

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tracks and radioed the alarm. Said you talk English. Uh, I talk English. Uh, I talk English pretty good myself, huh?"

"Yeah," Kruger snarled, "good as hell. What happens now?"

"We wait until the flitbot and a patrolbot get here. Then we have the trial."

The patrolbot was like the large wheeled machine Kruger had seen earlier. It was evidently present mainly to provide physical equipment for the trial. It did join, though, in the recital of basic axioms.

The three machines intoned, "ANIMALS WALK ON THINGS CALLED FEET."

There was a pause, then the flitbot said in a kind voice, "You may sit down, Prisoner, if your feet are tired."

Kruger looked around for a level spot and lowered himself to it. "Thanks. I *have* been on my feet for a long time." Then he saw his mistake and made a move to jump up. But it was too late. "The hell with it!"

The flitbot sighed. "It does realize, subconsciously at least, that it's an animal. Well . . . ."

"ANIMALS MAKE ARTIFACTS."

The flitbot held up Kruger's camera. "Is this an artifact?"

Kruger glared. "How the hell would I know? I don't carry a, a encyclopedia around with me."

The robocop put in, "It's got data engraved on it. It ain't vegetable, animal, mineral or 'bot, so *I* say it's an artifact."

"Very well," the flitbot said. "Next Axiom."

"ANIMALS (UGH) EAT PLANTS. (ALSO, GOODY! SOMETIMES EACH OTHER.)"

"Prisoner, do you eat your own kind?"

Kruger jumped to his feet in disgust. "Of course not! Look; I demand to see the Terran consul or somebody!"

"There is no Terran consul here. Do you eat minerals? Or robots? I thought not. You must, then, eat plants." The flitbot sobbed. "Let's leave the subject. Ready:"

"ANIMALS TAKE OXYGEN FROM THE AIR AND PUT BACK CARBON DIOXIDE. THIS IS THE ONLY GOOD THING THEY DO, EXCEPT, STRANGELY, ON RARE OCCASIONS, TENDING PLANTS OR ROBOTS."

The patrolbot suddenly shot out grapples and seized Kruger. "Hey!" he yelled. "What the devil — " A large cylinder of clear glass or plastic popped from a segment of the big machine. The grapples stuffed him in, and clamped a lid on. He beat at the lid with his fists, but it didn't

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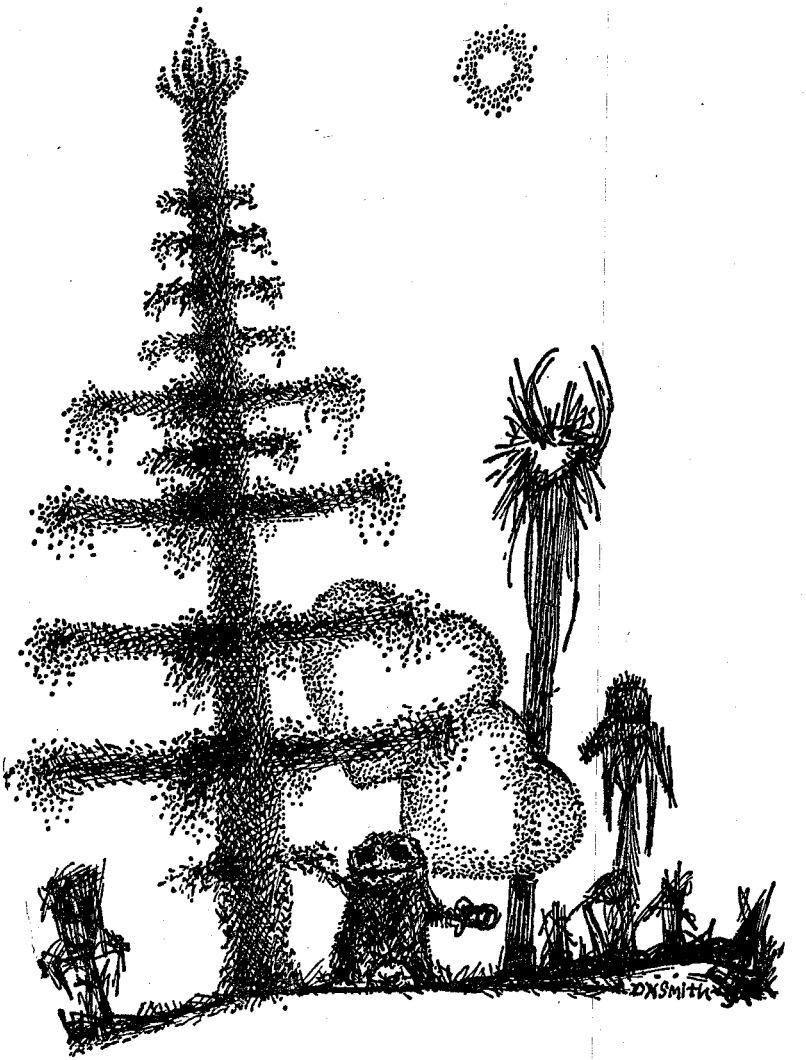

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yield. He gave up. Exertion would only make him suffocate quicker.

But there were various flexible hoses attached to the other end of the cylinder. Maybe . . .

The lid opened. A grapple reached in, seized him by the coat collar, hauled him out and dumped him on the ground. He rolled over and sat up, sputtering.

"Mm-hm," the flitbot said, "it absorbs oxygen, all right. And gives off carbon dioxide. Animal, then, by all reasonable tests. Agreed?"

"Agreed," the other two machines chorused.

The grapples picked him up again and lifted him to a flat platform atop the patrolbot "Damn it," he yelled, "*now* what are you doing?"

"Weighing you," the flitbot said. "If we didn't make absolutely sure you mass over seventeen grams, some judge somewhere would doubtless set aside the verdict and order a new trial."

Finally they put him back on the ground. The patrolbot said, "It'd make a nice batch of fertilizer."

The flitbot sighed regretfully. "I'm afraid we can't do that. This creature is clearly insane. Though it knows deep down that it's an animal, its behavior shows that on the conscious level it thinks it's a plant. About all we can do is eject it with a stern warning. All right?"

The patrolbot muttered something. The robocop said, "Well, if you think so."

"Patrolbot," the flitbot said, "do your duty."

The grapples seized Kruger again and held him aloft, shouting and struggling. The big machine turned and rattled to the edge of the clearing and along a road. At the end of the trip Kruger discovered that he'd been right about the grapples the first time he saw them. They *could* throw a man over the fence.

He limped into town, distributing glares impartially to the bizzare assortment of aliens who stared at his disheveled clothing and bare feet. Finally he reached a communications booth, wedged himself into it and pulled the door shut violently. He leaned toward the pickup and snarled into it, "English. Voice transmission only; fastest subetheric routing. I want the planet Earth, Solar System. Terran Department of Justice, Interstellar Division, Commissioner Stanzlecz. No, I won't spell it. Just put the goddam call through."

There was a period of clicking, buzzing, whistling and pop-

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ping. Then a sultry contralto voice drawled, "Interstellar Division. To whom did you wish to speak to, please? Whom is calling, please?"

"This is Inspector Kruger. I want to speak to the Old Man. Who the hell are *you*? Another new switchboard girl?"

There was a languid pause. Then, "Oh, Inspector Kruger. I've heard of you. I'm Cherie Grapplewell. Just a moment, please. I'll, mm, give you the connection you want."

He waited. Presently his chief's voice came on. "Kruger, my boy! How are you? Everything hotsy-totsy, I hope? What may I do for you?"

Kruger snarled, "Mainly, I wanted to tell you what you can do with this job, once I get this assignment finished. If I ever do."

There was a pause. "Gracious. One of those moods. But you sound sober, and that's something. I confess, I can't imagine what's so difficult about finding one stolen tree."

Kruger sneered at the pickup. "You can't, eh? I suppose you didn't know there was anything out of the ordinary about this theft."

"Ooh. You are huffy! Of course I knew it was an important tree. A favorite of a planetary ruler, an Emperor Brekeke, or something like that. But with the photograph we gave you, and the leads, I thought surely . . . . Haven't you been able to trace it at all?"

"Hell yes, I've been able to trace it! I got within fifty yards of it. But there hasn't been one hint of who stole it, or where he is now. And before I even begin to reclaim it, I have to take a new photograph and register that with the local authorities and send copies to the Emperor. He has to certify that it's his tree and that it was stolen without his permission, expressed or implied, and that if it's extradited it'll be given a good home and not mistreated. There's something damn odd about this whole case. Right now, the tree's in a Plant Refuge, and — "

"In a *what*?"

"A Plant Refuge, damn it! What I called you for is to see if you can apply any pressure anywhere to help me get into it legally. Half this planet's forbidden to, uh, animals. I've been trying all kinds of subterfuge, but. . . . . "

"Kruger! Are you sure you haven't been drinking?"

Kruger counted to ten in basic Anglo-Saxon. Finally he choked out, "Just get me some backing!"

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The commissioner said severely, "Now see here, Inspector. I had my doubts about assigning you to the job. If there'd been anyone available at the moment with even a modicum of tact or subtlety . . . . Terragov wants very badly to establish firmer relations with Emperor Brekeke, which is why we've undertaken this little thing for him, on the quiet. I warn you I will not tolerate any high-handed tactics. That planet you're on is in the Moogan Protectorate and, heavens, you know how delicate our relations with *them* are.

"I did ask our ambassador to see if the Moogans could help you. I believe an old friend of yours is the Moogan Regent in that sector. Mum something . . . long name . . . . "

Kruger groaned and broke the connection.

He quickly reached for the door, but the speaker-grill emitted a chime. "Yeah?"

"Inspector Kruger? Emergency Contacts. Please turn on the visio pickup."

He muttered an oath, but complied. There was a gasp from the invisible operator. "Oh! Is *that* what humans look like? I — I've been holding a call from Governor-Regent Mummumnoonoogog. He demands to speak to you."

III

Mummumnoonoogog — Mum for short — was a typical Moogan, humanoid but so muscular he looked like two bodies occupying the same space. His jaw seemed to thrust out of the viewscreen. "There you are! Listen, Kruger. I've tried to remind myself you're just a cop trying to do his job. But the last time I saw you I wanted to make pemmican of you, and it wouldn't take much to revive the wish. My itinerary takes me near there, and I'm swinging over especially to see if I can catch you at anything. Now, I want you to go to your hotel and wait. I'll be there in a couple of days. I won't tell you when. And you'd better not let me find you more than two blocks from your hotel. Understand?" The Moogan held up two truncheonlike fingers. "One, two. Two blocks."

Kruger tried not to cringe. "Yes, sir. Uh, Governor. There's this stolen article, on the planet here — "

Mum showed a smile that would have made a shark shudder. "I don't care if somebody's stolen the Crab Nebula. No nonsense from you, See?"

"Y-yes, sir. I see."

The screen went dark. Kruger sat a minute staring idly at

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his bare feet. They were scratched and swollen and muddy. Finally he snarled, stood up, left the booth and limped toward his hotel.

It was reassuring, if a little painful, to wear shoes again. He spent the next forenoon limping about the area vouchsafed him. He pondered whether two blocks might include the far sides of the limiting street. Probably not, in Mum's eyes.

He wandered into an all-species lunchroom and ate, more or less — after almost hysterically refusing a lovely green salad. Then he walked some more, scowling at the buildings he'd already passed a dozen times. Finally he stood on a corner, teetering back and forth on his sore feet, watching the assorted aliens stream by in equally assorted vehicles. He was about to go back to the hotel and get drunk, when a hoarse, dry, rather high-pitched voice whispered, "Half a mo, guvner."

He turned, startled. "Uh, I beg your pardon. Were you speaking to me?"

What the alien made him think of was a fox. Not that it could possibly be related to the Terran species. For one thing, it was tall, even on all fours. Its pert, erect-eared, fur-tufted face was level with Kruger's shoulder. And it very very short fore-and-aft — as if a fox, monstrously big to begin with, had been somehow squeezed together and upward until its hind-paws stood only inches from the fore-paws. But it *looked* like a fox.

It winked slyly. "Wasn't I just? Speakin t' yer, I mean. Or praps I has the wrong chap. Praps yer eyent Inspector Kruger spyin' after the tree wot's been swiped from Is Ighness o' the planet Koshkush. If I has the wrong man, I'll just sye me pardons, guvner, an' be on me wye." The creature made a move.

"No — wait! I'm Kruger. How the devil did you — "

The alien winked again. "Oh, blokes like me has a wye o' earin things. Wot's it worth t' yer, t' ear somethin yer oughter know?"

Kruger studied the sharp features. He had little to lose. "How can I tell until I hear it?"

"Coo, guvner. Eyent we the cautious ones? This eyent goin t' cost yer no blinkin fortune. I'll make yer a real bargain, sort o' as a sample o' me services. Sye ten credits?"

Wruger shrugged mentally. He was on a pretty good expense account, this trip. He got out his wallet and extracted the necessary currency. "Here. Now what ought I to know?"

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The alien reached with a long foreleg, took the money deftly in its paw and tucked it into what looked like a natural pouch in the fur of his chest. "I'm fair obliged, guvner. Ear it is: them as stole the Koshkush tree has got the wind up. They're fixin' t' move it somewheres else on the planet. Some plyce visitors, eyent so blinkin likely to sneak in. I wouldn't doubt they'll do it right after this igh mackamuck Mum gets ear, so yer sure t' be occupied. Now. Eyent that somethin yer oughter know?"

Kruger grunted. It certainly was. If they did transplant the tree somewhere else — the machine could undoubtedly do it — he might never find it again, even if Mum didn't ship him home poste-haste.

He realized the alien was still standing there, as if waiting. He eyed it with interest. "Is there more?"

"Might be, guvner. Somethin might be done. Cost a bit o' the foldin, though. Guess I'd oughter interduce meself. Raynud Raynud, o' the planet Heath. Bit o' a dealer, if I might sye it. This an that. But seein as how yer keyent go more than three blocks from yer hotel . . . . "

"Two."

"Two, was it? Coo, things do get distorted. Hinders yer activities, don't it? A blinkin pity. Course, now, there's more than one blinkin hotel in town, eyent there?"

Something like a small grenade exploded in Kruger's mind. He reached out and grasped a handful of pelt at the alien's shoulder. "I don't know what your idea is, er, Raynud, but I like the way you think! Start by telling me what hotel to move to."

The alien grinned. "The foldin, guvner? The foldin?"

Kruger hesitated only an instant. "I think we can reach an understanding."

"Good, now. We has t' get yer within two blocks o me cousin's factory."

The sign outside the factory read, "GENERAL 'BOTS, LTD." Kruger stood open-mouthed and watch a crew of huge creatures like muscular land-going octopi put finishing touches on a brand-new patrol-bot. Five of them seized it, roared out in unison, "Yo Ho Ho Heave!" and, with an awesome bunching and writhing of tentacles, tossed the machine up lightly onto a rack. Then, tentacles flashing, they began putting on the wheels.

In ten minutes the thing was done. One of the assemblers glided liquidly to the tail end

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and twisted something. The machine came to life. Its beer-bottle eyes swiveled. It seemed to cringe from the octopi. One of the latter — the foreman, no doubt, as he'd done no work — rumbled something to the machine and pointed. It dipped its forepart, rolled obediently down a pair of rails to the ground and rattled over to park itself in line with several identical machines.

Raynud Raynud was tugging at Kruger's sleeve. "Come on, guvner. Me cousin's wytin."

An apparent twin of the alien greeted them in the office. "Delighted, what? Earth, eh? Heard a lot about the place. Been meaning to pop out and have a look-o, when I get the chance. Bit of all right, this English; and spreading like wildfire. Do you have any other languages on Earth?"

"Uh, well, a few."

"Fancy! Well, old chap. Raynie's told me about your difficulty. Shouldn't wonder if we can just take care of it. Bit of a rush, eh? Put the night crew on it. Have the thing ready bright and early. Never was too keen on that Moogan chap, anyway. Not soft-spoken at all."

Kuger stared out the window at the line of motionless patrolbots. "I suppose the two of you can estimate the chances better than I can. And it's a lot more than I'd hoped for. I was going to content myself with a good color photograph. Uh, you're *sure* one of your machines can really uproot the tree without damaging it and bring it out?"

"Oh, no question, old top. Special fittings and all that. Matter of fact . . . . But you're not interested in how the dashed tree got there in the first place, are you. Stick to the present game, eh?" The manufacturer smiled. "Beastly poor show if that Moogan chap breezed in a day early, and you popping about outside your quarantine."

His cousin put in, "Faint heart never won no blinkin barmaid, I always sye."

Kruger peered harder at the machines outside. Something was stirring in his mind. "Lots of room inside those things?"

"Oh, ample. Ample."

"Uh . . . would there be room for a couch, and maybe a chair? And, er, facilities?"

The manufacturer eyed him. "Shouldn't wonder. Why?"

"Well, could you install them? And paint a sign on the front of the machine? I might not have to break quarantine."

The two aliens were watching him narrowly. "How, old chap, might that sign read?"

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"Refuge Hotel. Weekly rates."

Raynud Raynud lifted a forepaw and poked Kruger delightedly in the ribs. "Coo, guvner! You eyent half slippery!"

IV

Inside the refuge, the false patrolbot bumped and rattled along the road. Kruger, sweating at the task of driving, kept glancing nervously at the small computer-screen before him. If some other machine radioed him some message, he had to think up a quick answer for his own vehicle to translate into 'botese. He'd passed several robocops and flitbots, but beyond casual glances they hadn't paid any attention.

He had to admit the Raynud's idea was fundamentally sounder than his own earlier one. Why disguise yourself as a plant, when you could disguise yourself as one of the guardian machines?

He rounded a turn and saw beside the road a very strange creature with a thumb raised in an unmistakable gesture. A suitcase rested on the ground.

At first startled glance, he thought the thing was a gigantic frog or toad. But it was obviously intelligent. He perspired harder. Dare he dare pick up a hitchhiker? Dare he, on the other hand, pass it by? It must be highly privileged, to be here at all.

He braked to a stop and opened the hatch.

It wasn't until the thing was inside that he saw his error. He stared in dismay at what he'd taken for feet. They were *roots*. To be sure, they splayed out nicely, like toes, but they were obviously capable of thrusting into the ground, for anchorage and sustenance. And the rough green skin was . . . bark.

Perhaps, though, he hoped desperately, the thing wasn't *all* plant. The eyes and the mouth looked almost animal.

The being eyed him impatiently. "Well? Are you the proprietor? Do you have a vacancy?"

Kruger shook himself from his trance. "Uh . . . there's just the one couch . . . . "

"Well," the thing said coldly, "do I look as if I need two? Proprietor or clerk, stir yourself and fetch my luggage. If it's payment you're hesitating about, here." It took from beneath its bark a fat wad of orange credit notes, peeled one off carelessly and thrust it at Kruger.

Kruger climbed out, hastily grabbed the valise, brought it

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in and closed the hatch. "I — I'm afraid we aren't very luxurious here. You see, I — "

The thing bestowed upon him a gracious smile. "Quite all right. At least, everything seems new and clean. And I'm travelling quietly, in any case. Don't want to be seen, you know." It settled itself comfortably on the couch. "You're animal, aren't you? I suppose, with the scarcity of help . . . . "

Kruger climbed back into the driver's seat and sat for a moment, blinking. Then, because he didn't know what else to do, he drove on.

His guest was taking a keen interest in the manual controls, peering past Kruger at them. "Fellow, this is a passing strange establishment you have here. A mobile inn, I can appreciate. But why that mishmash of apparati? What are those three hand wheels at the top, for instance?"

"Uh, those are the digger controls, sir."

"Digger controls? What in heaven's name has an innkeeper to do with digging?"

Kruger improvished desperately, "Well . . . you see, sir . . . some of our patrons lack the power of locomotion. Sort of, you might say, rooted in one spot. Ha, ha."

"Oh, yes, of course. Hm." The being seemed to ponder for a minute. Then it chuckled. "Quite. Oh, quite. You can't imagine . . . . "

Kruger drove on. Presently the vehicle emerged into the clearing he sought. He got out of his seat and turned — and found himself staring into the muzzles of a compact but deadly-looking energy-pistol.

The thing that held the weapon stared at him intently now. "Just don't make any foolish moves, fellow. Do exactly as I say, and possibly I'll let you live, though I can't think why. Turn this vehicle around and back it slowly toward that tree. Start digging it up. Then, handling it very gently — and I hope for your sake you know your job well — uproot it and stow it on top of this inn or vehicle. Or wherever you stow things. Then turn around and go back the way you came. If anything speaks to us, say whatever you must to get us unhindered out of this Refuge. Falter, and you die."

Kruger felt a tide of crimson mounting his face. He let out an inarticulate sound. *No, no;* he screamed inwardly. *Not even I can have luck this bad!* But he didn't see how he could doubt it. He'd apparently blundered into the very hands of

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the criminal who'd stolen the tree.

His mind darted about like a mouse in a cat's lair. He stammered, stalling desperately for time, "Uh, the tree from — from Koshkush?"

His captor smiled frigidly. "Let us not play games. My patience is limited."

Slowly, with shaking hands, Kruger reached for the steering-wheel. What mortified him wasn't so much the desperate plight he was in, but that he'd been such a complete fool. Well, he thought bitterly, it wasn't the first time. But it might be the last. He got the vehicle turned and backed it toward the tree; stopped a few feet away and stared unhappily at the digger-controls. He'd had precious little instruction. He sighed and took hold of a hand-wheel. Fortunately, the viewports let him see what he was doing. A huge awl-like thing rose on its derrick, tilted forward . . . .

There was a sound as of angry giant hornets. Gobs of molten steel exploded from the drilling-blade. From a clump of bushes at one side of the clearing, a thing came hopping frantically, its weapon spitting incandescence. More liquid steel rained down.

The newcomer was a near-twin to Kruger's captor. "Stop!" the frantic one bellowed, "Harm one leaf of the Princess' foliage, and I'll — "

Kruger could imagine the whole patrolbot melted down, with him inside. He leaped for the hatch, flung it open and tumbled out. His erstwhile guest came right behind him. Now the two alien beings faced each other, weapons aimed.

Then they both went rigid, staring at each other.

"Brekeke!"

"Keshkoash!"

Slowly, the newcomer let its weapon sag, then thud to the ground. "Sire . . . I cannot. . . ."

Kruger's captor was trembling. In a voice laden with grief, it said, "Keshkoash. My most trusted liegeman. And I assmued you'd perished in a futile defense of Her Highness."

The other — which, Kruger now saw, was the more youthful — hopped slowly to the tree and knelt beside its trunk. "We love each other, Sire. That is my only defense."

The tree was quivering and bending.

Kruger heard his own hoarse voice. "P-princess?"

The Emperor — for it could be no other — glanced at him absently, then drew itself up and bowed. "Accept a monarch's apologies, fellow. I thought *you*

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the thief. You must be, instead, that detective from Earth. Kru — Kru — "

"K-Kruger."

"Ah, yes. Kru-ker. A good name. I may award you a baronetcy, if you can prove there's any noble sap in your capillaries. Your superiors messaged me that you'd found my daughter, and where. I thought I'd best hurry on ahead. When my fleet gets here . . . . "

Kruger was staring at the tree. "D-daughter?"

Brekeke frowned. "Why not? Don't tell me you belong to one of these species in which the females are hardly distinguishable from the males? Revolting!"

The tree, which had been quivering ever more violently, now spoke — apparently by vibrating certain branches and twigs. Its voice was girlish and tearful. "I shall never return to Koshkush!"

Brekeke spun and took an angry hop. "What! You dare think of defiance?"

"I won't!" the tree wailed, "I can't! I'd rather wilt first!"

"Why?" the emperor roared.

The blossom atop the tree turned crimson. "Because we — because I — I'm going to have a seed."

Brekeke went motionless and silent. Slowly, its bark became mud-colored. It began to shake. A low growl escaped from it. It fought for self-control; finally achieved it. It drew itself up and glanced coldly at Keshkoash. "You scoundrel. And with all those hungry relatives of yours. And the other trouble this will cause me. Well . . . it appears I am gelt with my own poignard." It laughed bitterly. "I have not lost a daughter. I have gained a grove!"

Kruger was beginning to realize that he wasn't really needed here, nor safe. Quietly, he backed toward his vehicle; turned to make a dash . . . .

And found his way blocked by three genuine machines.

The flitbot said in exasperation, "It's that crazy animal again. And look how upset it's got those plants! Patrolbot, do you remember how you tossed it over the fence before?"

"I remember."

"Well, do it again. But first, let's send a workbot to build the fence up twice as high at that point."

V

Kruger was sitting up. Much of him was bandaged, but there seemed to be no broken bones.

Mummumnoonoogog paced the hotel room, pausing at each turn

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to glare. Sometimes his thick hands inched forward, fingers flexing hungrily. But he restrained himself. "A whole array of machines gone neurotic," he snarled, "because you demonstrated that any one of them might be a fake. An animal spy. The planet Heath threatening to quit the Customs Union because I'm having to prosecute two of its nationals. Koshkush on the brink of civil war because the Princess broke her troth to a powerful duke and eloped with some mere baron."

Kruger muttered, "I didn't have anything to do with that."

Mum advanced and thrust his face at Kruger's. "You found them. *You* found them. So long as it was assumed she'd merely been kidnapped, it was all right. Have you any idea what this mess is costing Moog? What do you think would happen to you if I sent Earth the bill?"

Kruger said, "I'd get fired. Please do."

The Moogan grunted. "Don't think I wouldn't love to. But you personally are under the protection of Emperor Brekeke, and, at least until he's overthrown, he's a valued ally. As a matter of fact, he even suggested you for a little job of sleuthing I have to carry out. It might just suit you. The Raynud cousins got away. Turns out they've been smuggling and engaging in all sorts of illegal things for a long time. Somebody's got to chase them down. Do you want the job?"

Kruger knew better than to refuse too hastily. "Well, do you have any idea where they went?"

"Certainly we do. They're still on this planet. They dyed their fur green and escaped into one of the refuges."

Kruger pretended to consider it carefully. After a while he said, "Mm, no; I think not. Thanks. But it would hardly be, er, ethical, I'm afraid. Uh, honor among thieves." — C.C. MacAPP

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HOWLING DAY

by JIM HARMON

Here's how to crash television. All you need is a gimmick — like for example the end of the Earth!

Greymour P. Glide,
Midashow Productions, Inc.
Video Village,
Pasadena, Calif.
June 16

Mr. Mort Rydan,
Fun Town Apartments,
10049 Sunset Blvd.,
Hollywood, Calif.

Bravo, Mr. Rydan, bravo!

Your presentation titled "HOWLING DAY" has been read with considerable interest by all of us here at Midashow Productions, Inc. I am sure that you are aware how seldom a manuscript such as yours, submitted by a non-Guild writer without an agent, ever gets as far as the desk of someone in my position. However, there is something so uncannily compelling about your ms., all the boys thought I simply had to see it. I want to tell you that the Laughing Grasshopper of yours really gave us all a big boffo.

My only wish is that your wonderful, truly wonderful concept with so many commercial possibilities was not so unspeakable. Fun is fun, baby. I admit that "HOWLING DAY" would get the biggest Nielsen any audience participation ever got, day or prime, but such things can not be. If your wish was to gain our attention, you certainly have. But now let's stop horsin' around, as they say, and give me something we can *use*. Remember, there are a lot of good normal, church-go-

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ing, child-rearing, yes. America-loving folks out there, and it is up to us to be normal and save such good healthy pagan ideas for our private lives, right?

(By the way, are you *really* Richard Belnoir Hastings?)

The Surprise Disemboweling Phonograph the Familiars use on the Third Play is particularly good. This can be salvaged in some way, I feel, and would like to discuss this and other matters with you.

There are difficulties inherent in the original gizmo, however, that give some of us doubts. To save anything of the Howling Day game, contestants will have to be above average both physically *and* brainwise even to last until the Flinching Feelers Hop. (Should take four min zero — right to first commerc. — good.) This is of course bad for home identification, but moreover, there's a problem of logistics. Where we going to get them? (Howsomever, a good first game could be played by the Reverend Dr. Billy Graham and some writer-scientist like my good friend Ray Bradbury, a real gentleman. (This ain't you, Ray?)

Anyhoo, a meet can iron out these problems. *Phone,* for crissake. And let's not play dirty with the U.S. Mails, huh?

With best regards,
Grey

Greymour P. Glide,
Associate Executive
Producer,
The Midas Game,
Midashow Prod., Inc.

Mort Rydan,
10049 Sunset Blvd.,
Hollywood, Calif.
June 17

Mr. Richard Arnthorn Agberg,
Vive-President-in-Charge,
Video Village,
Pasadena, Calif.

My dear Agberg:

I must call your attention to the fact that my submission titled *Howling Day*, mailed June 1, somehow fell into the hands of something called *The Midas Game,* an alleged audience participation program. This certainly was not the proper place for my material, as anyone on Earth should be able to see.

Yours, it was my understanding, is a leading American communications network. As such, you should exercise the proper disposition of material placed into your hands.

If *Howling Day* is not submitted to the proper channels immediately, a higher authority shall hear of this.

Most sincerely,
M. Rydan
Mort Rydan

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Lawrence Tinnley Boles,
Analanthol Prod., Inc.,
Pasadena, Calif.
June 21

Mr. Mort Rydan,
10049 Sunset,
L.A. Calif.

Dear Mort Rydan,

"*Howling Day*" is one of those rare works of genius a man in my position has the electric joy of seeing once in a half score of years! I'm sure you are all too aware of the binding restrictions that make it so difficult for us in this hurried world of television to even glance at unsolicited, unagented scripts, but there was, all were agreed, something so compellingly unique about your work that the closest examination of it was demanded.

Let me say immediately that while you and I know that Art is total license to the Artist, there were creatures who objected to Arthur painting his freshly dead ex as a "screwy" nympho. Just so, I feel that if you go talking about your "Laughing Grasshopper" in some of the coarser bars with people not our sort, you may be killed, or at least badly beaten. I'd hate for that to happen to such a promising young man before I got a chance to do something with him.

In the midst of all these good sayings, I must interject a negative motif. Our anthology series, *Analogues of Man*, has been canceled after the first thirteen were put in the can. We all feel it was a particularly bitchy thing to have happen to us. The Almighty knows there is little enough Art and Drama on the boob tube these dark dawnings. A clean and true death might have been ours, trampled by the mindless mobs of the ratings race. That is a hurtful death, but one that can be comprehended in the death throes. But ours was the ignominy of being canceled on the basis of preview theatre audience reactions in Arcadia, El Monte and San Diego.

It was to be our fate to only complete those thirteen programs, involving but seven projects. Included were a two-parter of *Robinson Crusoe*, the first *realistic* treatment with sensitivity, and a six-part autobiographical odyssey-essay on the young American writer, Harlan Ellison, prepared with his full co-operation. I regret to say that "*Howling Day*" could not be one of those favored seven.

However, all is not a total debit.

You have the makings of a nice little sci-fi pilot here. I know — "*Howling Day*" may concern interplanetary invasion, but it is certainly not science fiction, you say. But to the average viewer it *does* seem to be science

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fiction. Let him think so. The more perceptive will see further. Basically, you have to throw in a continuing lead, an ostensively young hero, rather a latter day *Captain Video.* (Too bad we can't get Al Hodge — a sweet guy (but like a board) but other commits, you know.)

I would be happy to work with you on developing this property. (I expect to have some free time shortly.) As you may have deduced, I have some smashing ideas myself. For instance: we see *immediately* — before Peacock, before teaser, anything — the big, simple, beautiful face of the Rev. Dr. Billy Graham and he is saying directly to us — "There *are* Stranger Things in Heaven and Earth than are *Dreamed* . . . ." And then after the teaser, opening credits, first commerc, we have another little intro by a *scientific* authority (God and Science both on our side). Maybe we can get my friend, Ray Bradbury, for this.

It is my fondest wish that we meet together at your earliest convenience and discuss all, including some trifling legal points. We would be unable to show disembowelment without permission of the copyright owners, J'Entreat Pharma-products. And I trust you have taken the precaution of copyrighting your ms. or at least registering it with the Writer's Guild-West. By all means, let me hear from you.

Fondly,
Boley
Lawrence Tinnley Boles,
Senior Story Consultant,
Analanthol Prod., Inc.

M. Rydan
10049 Sunset Blvd.,
Los Angeles
June 22

Mr. R. Agberg
Video Village,
Pasadena, Calif.
My dear sir:

Once again, I have submitted *Howling Day* to your alleged network, and this time you have turned it over your drama section. Can you get it through your head that this is not intended as *entertainment?* I am giving you one last chance to do the right thing.

Hastily,
M. Rydan
Mort Rydan

William R. Monroe,
VVNews,
Pasadena, Calif.
June 25

Mr. M. Rydan,
10049 Sunset Blvd.,
Los Angeles, Cal.
Dear Mr. Rydan,

Thank you for submittting your fine script, "*Howling Day*", to VVNews Documentaries. We

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sincerely regret that we cannot use this material in its present form.

However, there is something so uniquely compelling about your presentation — certainly it had to be to reach my desk without Guild membership or recognized representation — that I feel some part of it may still be used in some form.

I wish like hell we had the budget to do a full scale documentary such as yours. It might make a few of the fat-headed viewers get off their equally fat cans. TV has never equalled the effectiveness that an Orson Welles could achieve with his Invasion from Mars broadcast. Your script, if done right, *without misrepresenting it as fact,* could reach the same plateau of effectiveness. But there is simply not the money for it. And, frankly, I am getting to be an old and gray boy wonder, tired of dueling windmills. I don't feel like fighting the powers that be to convince them that your disembowelment scene is totally necessary, and all the other grief I would be taking on myself.

The best we can do is present some of the — let's face it, — "cleaner" scenes, and comment on them and discuss them on that grand old gimmick, the Panel.

My thinking at the moment is along the lines of doing this a Sunday morning on our *Near God* show. This is, you realize, a twenty-five minute optional net feed, and rates would be according. For the panel discussion between selected scenes, we could use you (if you're photogenic enough) along with somebody for religion's side of it — Billy Graham would be perfect — and a contemporary philosopher like Ray Bradbury (one of my close friends knows him quite well so this should be no problem). I think this should generate more discussion in trade circles than any similar show has in a long time, although God knows, we can't expect a rating buster.

I want to meet with you and discuss the project just as soon as you can possibly make it. (Next time, please enclose your phone number.)

By the by, I know "struggling young writers" like yourself don't always have a lot of money. I could offer you a little extra on the side until this all goes through. I got kind of a kick out of your "Laughing Grasshopper." It is so obscene, it is funny as all hell! Could you write me up about sixteen pages of a scene where the Grasshopper meets a girl who looks exactly like the late Marilyn Monroe? (Don't worry yourself about Continuity Acceptance!)

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Yours Truly,
Bill
William R. Monroe,
Senior Associate Director,
VVNews

From the desk of
MORT RYDAN

R. A. Agberg:

You have utterly failed to make the proper use of my submission, *Howling Day*. It should be obvious to the stupidest beast on Earth that this was not a script submitted to your primitive communications system *for sale*. With the best will in the world, I offered you an extremely detailed advance *publicity release* for whatever use you could make of it during the coming invasion of your world by my people. Naturally, there was no charge for this service.

The time value of the release has completely decayed due to your bungling. The day you are sent howling is here. I feel you people will find it as "uniquely compelling" in reality as in print! — M.R.

—JIM HARMON

★ ★ ★ ★ ★

FORECAST

Let's suppose the day comes when a man invents a practicable, economical time machine. It works perfectly. It can transmit a man, or a whole crew of men, as far into the past as you like — complete with equipment, rations, reading matter, tents, water-purifiers . . . complete, in short, with anything you went to send. *But* —

But it only works one way. You can go a million years into the past, or a billion. But you can't travel one nanosecond into the future — not even to return from the past.

That's the situation Robert Silverberg has created for us in next issue's lead complete novel, *Hawksbill Station*. What's the use of that kind of time travel? A very practical use, says Silverberg, for Hawksbill Station is a prison colony . . . from which there is no escape, and no hope of parole. . . .

In the same issue, of course, we conclude Poul Anderson's *To Outlive Eternity* — and that's a climax you won't soon forget. We hope to squeeze in a non-fact article called *Traveler's Guide to MegaHouston;* there's a Roger Zelazny story called *Angel, Dark Angel* scheduled, plus the usual ration of Ley, Budrys etc. . . . See you then!

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THE ADULTS

by LARRY NIVEN

Illustrated by FINLAY

True maturity is a deadly gift. The aliens had it — and Mankind trembled before their presence!

I

Genesis, Chapter 3

22 And the Lord God said, Behold, the man is become as one of us, to know good and evil: and now, lest he put forth his hand, and take also of the tree of life, and eat, and live forever:

23 Therefore the Lord God sent him forth from the Garden of Eden, to till the ground from whence he was taken.

24 So he drove out the man; and he placed at the East of the Garden of Eden Cherubims, and a flaming sword which turned every way, to keep the way of the tree of life.

He sat before an eight-foot circle of clear twing, looking endlessly out on a view which was less than exciting.

Even a decade ago those stars had been a sprinkling of dull red

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dots in his wake. When he rotated the cabin to face forward, they would be hellish blue, bright enough to read by. To the side, the biggest had been visibly flattened. But now, in all directions there were only stars, sparsely scattered across a sky that was mostly black. This was a lonely sky. Dust clouds hid the blazing glory of home.

The light in the center of the view was not a star, and it was bright enough to have burned holes in a man's retinae. It was the light of Phssthpok's fusion drive, burning a bare eight miles away. Every few years Pssthpok spent some time watching the drive, just to be sure it was burning evenly. A long time ago he had caught a slow, periodic wavering in time to prevent his ship becoming a tiny nova. But the blue light had not changed at all in the weeks he'd been watching it.

For most of a long, slow lifetime the heavens had been crawling past Phsstpok's porthole. Yet he remembered little of that voyage. The time of waiting had been too devoid of events to interest his memory. It is the way the protector stage of the Pak species, that one's leisure memories are of the past, when one was a child and, later, a breeder, when the world was new and bright and free of responsibilities. Only danger to himself or his children can rouse a protector from his normal dreamy lassitude to a fighting fury unsurpassed among sentient beings.

Phssthpok sat dreaming in his disaster couch.

The cabin's attitude controls were beneath his left hand. A food slot was on his right, and when he was hungry, which happened once in ten hours, his knobby hand, like two fistfuls of black walnuts strung together, would reach into the food slot and emerge with a twisted, fleshy yellow root the size of a sweet potato. Terrestrial weeks had passed since Phssthpok last left his disaster couch. In that time he had moved nothing but his left hands and his jaws. His eyes had not moved at all.

Before that there had been a period of furious exercise. A protector's duty is always to be fit.

Even a protector with nobody to protect.

The drive was steady, or enough so to satisfy Phssthpok. The protector's knotted fingers moved, and the heavens spun around him. He watched the other bright light float into the porthole. When it was centered he stopped the rotation.

Already brighter than any star around it, his destination was still too dim to be more than a

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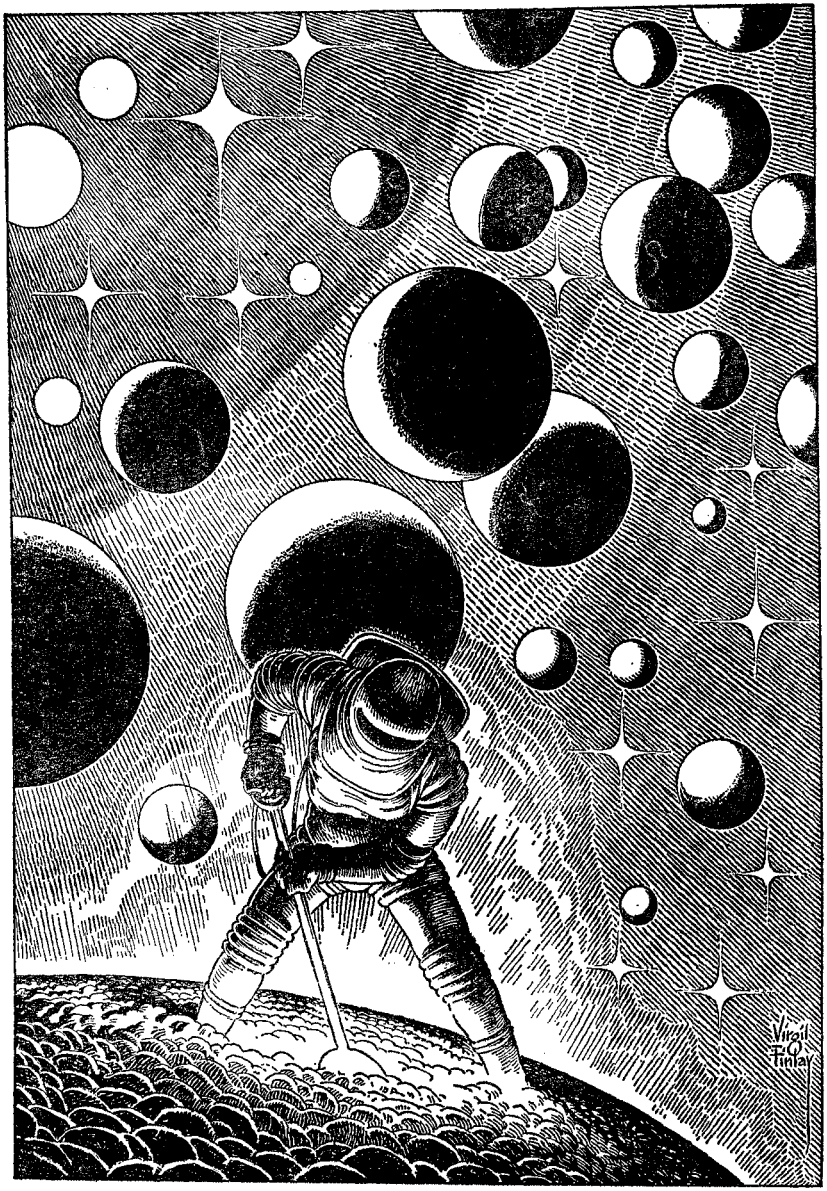

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star. But it was brighter than Phssthpok had expected, and he knew that he had let time slip away from him. Too much dreaming! And no wonder. He'd spent most of twelve hundred years in that couch, staying immobile to conserve his food supply. It would have been twenty times that long but for relativistic effects.

Despite what looked to be the worst and most crippling case of arthritis in medical history, despite weeks spent like a total paralytic, the knobby protector was instantly in motion. The drive flame shortened a little, bent a little to the right, so that the entire ship began to wheel around.

He'd reached the most likely region of space; ahead was the most likely star. Phssthpok's moment of success was hard upon him. The ones he had come to help (if they existed at all; if they hadn't died out; if they circled this star and not one of the less likely) wouldn't be expecting him. Their minds were nearly animal; they might or might not use fire, but they certainly wouldn't have telescopes. Yet they were waiting for him . . . in a sense. If they were here at all, they had been waiting for half a million years.

He would not disappoint them.

He must not.

A protector without descendants is a being without purpose. Such an anomaly must find a purpose, and quickly, or die. Most die. In their minds or their glands a reflex clicks, and they cease to feel hunger. Sometimes such a one finds that he can adopt the entire Pak species as his progeny; but then he must find a way to serve that species. Phssthpok was one of the lucky few.

It would be terrible if he failed.

II

Nick Sohl had gone mining.

A century ago monopoles had been mere theory, and conflicting theory at that. Magnetic theory said that a north magnetic pole could not exist without a south magnetic pole, and vice versa. Quantum theory foretold that they might exist independently.

In 2028, when the first permanent settlements were just beginning to bloom in the biggest Belt rocks, an explorer had found north magnetic monopoles scattered through the metal ore of a nickel-iron asteroid with no name.

Nick's cargo was as large as he could handle. One more shovelful (the magnets used to pull monopoles out of asteroid iron

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did look remarkably like shovels) would have started the north monopoles beating their way through the electromagnetic field around his cargo box. He had quite a catch for a couple of weeks' backbeating labor. Though ninety years had improved the tools, Monopole mining was still a one-man operation.

Truth to tell, he'd have been satisfied had he found nothing. Mining was an excuse the First Speaker for the Belt Political Section used to escape from his cramped office buried deep in the rock of Ceres, from the constant UN-Belt squabbles, from wife and children, friends and acquaintances and enemies and strangers. But it was nice to know his secret scource had panned out. Nick's ancestors had felt the same about their secret fishing holes.

The load would be worth good money at Ceres. A magnetic field generated by monopoles acts in an inverse linear relationship rather than an inverse square. In practical terms, a monopole-based motor or instrument will reach much further. Monopoles were valuable where weight was a factor, and in the Belt weight was always a factor.

And next year, after the first frantic weeks of catching up with current events, after the next ten months spent manipulating the politics of the solar system, he would be back. And the year after that . . . though he couldn't really count on it. The monopoles sources in Saturn's rings were a trifle too conspicuous. One year soon he'd spend a week crossing space only to find Cassini's Divide jammed and alight with fusion-driven craft.

Nick was building up speed for the trip to Ceres, with Saturn a fantastic bauble behind him, when he saw his mining detector swing slowly away from the cargo box. Somewhere to his left was a new and powerful source of monopoles.

An unbelieving grin split his face, like lightning across a black sky. Two sources! Almost an embarrassment of riches. He didn't need this new one, but he could sell it once he'd located it. That would take doing. The needle wavered between two attractions, one of which was his cargo box.

He spent twenty minutes focussing a com laser on Ceres.

"This is Nick Sohl, repeat, Nicholas Brewster Sohl. I wish to register a claim for a monopole scource in the general direction of—" He looked, tried to guess how much his cargo was affecting the needle, and named a star. "I want to offer this

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source for sale to the Belt government. Details follow, half an hour."

He then turned off his fusion motor, climbed laboriously into suit and backpac and left the ship, carrying a telescope and his mining detector.

The stars are far from eternal, but for Man they might as well be. Nick floated among the eternal stars, motionless, falling toward the tiny sun at tens of thousands of miles per hour, and knew once again why he went monopole mining. The universe blazed like diamonds on black velvet, an unforgettable backdrop for golden Saturn. The Milky Way was a jeweled bracelet for all the universe. Nick loved the Belt, from the carved-out rocks to the surface domes to the spinning inside-out bubble worlds; but most of all he loved space itself.

A mile from the ship he used scope and detector to fix the location of the new source. He moved back to the ship to call in. A few hours from now he could take a new fix and pin the scource by triangulation.

When he reached the ship his communicator was alight. The thin, fair face of "Little" Shaeffer, Third Speaker, was talking to the empty acceleration couch.

"— Must call in at once, Nick. Don't wait to take your second fix. This is urgent. Martin Shaeffer calling Nick Sohl, repeat Martin — "

Nick refocused his laser. "Lit, I'm truly honored. How can my poor find justify your august attention? A simple clerk would have sufficed." He set the message to repeat a few times, then started putting away tools. Ceres was light-minutes distant.

The answer came. Shaeffer's face was very serious. "Nick, one hundred and four miners have called in so far to report your scource." He paused, not for an answer, but for emphasis. "Think about it. Most miners work their own mines. If that many called in to sell, thousands must have decided not to. And they're all across the system. If you'd taken your second fix you'd have registered two parallel lines."

Another pause. "I said we've had calls from across the system. They give us enough parallax to locate the scource. It's one scource, all right, and it's ninety A. U. from the sun, two and a half times as far as Pluto. You can guess how powerful it is. Mitchikov says that big a source could power a really big interstellar hydrogen ramscoop.

"We've been following it for an hour. Nick, it's moving toward the system at nearly ten thousand miles per second. That's way above even intergalactic

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speeds. We're all convinced it's an Outsider."

"Any comments?"

"Repeating — "

Nick switched it off and sat for a moment, stunned. An Outsider!

Outsider was Belter slang for alien; but the word meant more than that. The Outsider would be the first sentient alien to contact the human race. And it, singular, would contact the Belt instead of Earth, not only because the Belt held title to most of the solar system but because those humans who had colonized space were obviously more intelligent. There were many hidden assumptions in the word Outsider, and not every Belter believed them all.

"Nick Sohl calling Lit Shaeffer. Yes, I've got comments. One, it sounds like your assumption is valid. Two, will you for Christ's sake stop blasting the news all over the system? Some flatlander ship might pick up the fringe of one of your lasers. Or have we decided to bring them in on it? Three, I'll be home in five days. Concentrate on getting information. If you have to make decisions without me, do it, but first be sure it's urgent. Four — " Find out if the jerk is decelerating! Find out where he'll stop! But he couldn't say any of that. Until they decided to bring Earth in, which they probably would not, they would have to be careful. Shaeffer would know what to do. "There is no Four. Sohl out."

III

The solar system is big and, in the outer reaches, thin. In the main Belt, from slightly inside Mars' orbit to slightly outside Jupiter's, a determined man can examine a hundred rocks in a month. Further out, he's likely to spend a couple of weeks coming and going, just to look at something he hopes nobody else has noticed.

The main Belt is not mined out, though most of the big rocks are now private property. Most miners prefer to work the Belt. In the Belt they know they can reach civilization and civilization's vital by-products: stored air water and hydrogen fuel, a restaurant with human waitresses, a new air regenerator, autodocs and theraputic psychomimetic drugs.

Brennan didn't need drugs or company to keep him sane. He preferred the outer reaches. He was in Uranus' trailing trojan point, following sixty degrees behind the big planet in its orbit. Trojan points, being points of stable equilibrium, are dust col-

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lectors and collectors of larger objects. There was a good deal of dust here, for deep space, and a handful of rocks worth exploring.

Had he found nothing at all, Brennan would have moved on to the moons, then to the leading trojan point. Then home for a short rest and a visit with Charlotte; and, because his funds would be low by then, a paid tour of duty on Mercury, which he would hate.

Had he found pitchblende he would have been in the point for months.

None of the rocks held enough radioactives to interest him. But something nearby showed the metallic gleam of an artifact. Brennan moved in on it, expecting to find some Belt miner's throwaway fuel tank, but looking anyway. Brennan was a confirmed optimist.

This time he was right. The artifact was the shell of a solid-fuel rocket motor. Part of the Mariner XX, from the lettering.

The Mariner XX, the ancient Pluto fly-by. Ages ago the ancient empty shell must have drifted back toward the distant sun, hit the thin trojan-point dust and coasted to a stop. The hulk, lightly pitted with dust holes, was still rotating with the stabilizing impulse imparted three generations back.

As a collector's item the thing was nearly beyond price. Brennan took photographs of it *in situ*, then moved in to strap it to his fusion tube, below his life-system cabin. The gyros could compensate for the imbalance.

In another sense the hulk presented a problem.

He stood next to it on the fusion tube's metal hull. The tank was half as big as his mining singleship, but very light, little more than a metal skin for its original shaped-core charge. If Brennan had found pitchblende, the singleship would have been hung with cargo nets under the fuel ring, carrying its own weight in radioactive ore. He would have returned to the Belt at half a gee. But with the Mariner relic as his cargo he could accelerate at the one gee which was standard for empty singleships.

It might just give him the edge he'd need.

If he sold the tank through the Belt, the Belt would take thirty percent in income tax and agent's fees. But if he sold it on the Moon, Earth's Museum of Spaceflight would charge no tax at all.

Brennan was in a good position for smuggling. There were no goldskins out here. His velocity over most of his course would

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be tremendous. They couldn't begin to catch him until he approached the Moon. He wasn't hauling monopoles or radioactives; the magnetic detectors would look right through him. He could swing in over the plane of the system, avoiding rocks and other ships.

But if they did get him, they'd take one hundred percent of his find. Everything.

Brennan smiled to himself. It was worth the risk.

Phssthpok's mouth closed once, twice, three times. A yellow tree-of-life root separated into four chunks, raggedly, because the edges of Phssthpok's beak were not sharp. They were blunt and uneven, like the top of a molar. Phssthpok gulped four times.

He had hardly noticed the action. It was as if his hand, mouth and belly were on automatic, while Phssthpok watched the scope screen.

Under 10^4 magnification, the screen showed three tiny violet points.

Looking around the edge of the scope screen, Phssthpok could see only the bright yellow star he'd called GO Target #1. He'd been searching for planets; and he'd found one, a beauty, the right size and approximate temperature, with a transparent atmosphere and an oversized moon. But he'd also found myriads of violet points so small that at first he'd thought they were mere flashes in his retinae.

They were real, and they moved. Some moved no faster than planetary objects; others hundreds of times faster than escape velocity for GO Target #1. They glowed with an intensely hot color, the color of a neutron star in its fourth week of life, when its temperature is still in the tens of billions of degrees.

Obviously they were spacecraft. At these speeds, natural objects would have been lost to interstellar space within months. Probably they used fusion drives. If so, and judging from their color, they burned hotter and more efficiently than Phssthpok's own.

There were tens of thousands of them.

They seemed to spend most of their time in space. At first he'd hoped they were some form of space-born life, perhaps related to the starseeds of the galactic core. But as he drew nearer the yellow sun, he'd had to give up the idea. All the sparks had destinations, from the myriad small orbitting rocks to the moons and planets of the inner system. One frequent target was the double planet with the transparent atmosphere, the one he'd

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decided might be Pak-habitable. No spaceform could have stood its gravity or its atmosphere.

That planet, GO Target #1 - 3, was the *biggest* such target.

If the pilots of those fusion craft had developed on GO Target #1 - 3, they would naturally prefer lighter gravities to heavier.

But the ones he sought hadn't the minds to build such craft. Had something, something alien, usurped their places?

Then he and his thousands had given their long lives to extract only a sterile vengeance.

It needn't be that. GO Target #1 was not the only likely sun. Probability was only twenty-eight percent. He could hope that the ones he had come to help circled another possible star. But he'd have to check.

Centered in the great twing porthole was a steady point of blue-white light. It grew, but unlike the other sparks, it did not shift. Phssthpok was matching its course.

Nick docked his ship on the surface of Ceres, hurriedly issued orders for unloading and sale of his cargo, and went underground. His office was some four miles beneath the pitted, bubble-dotted surface, buried deep in the nickel-iron core.

Lit Shaeffer's suit and helmet were hanging in the vestibule of his office. Nick grinned fleetingly at the sight. He always did.

Most Belters wore suits with personalized decorations. Why not? The interior of his suit was the only place many a Belter could call Home, and it was the one possession he *had* to keep in perfect condition. But even in the Belt, Shaeffer's suit was unusual.

On an orange background was the painting of a girl. She was short, for her head barely reached Lit's neck ring, and her skin was a softly glowing green. Only her lovely back showed across the front of her suit. Her hair was streaming bonfire flames, flickering orange with touches of yellow and white, darkening into red-black smoke as it swept across the suit's left shoulder. She was nude, and she had both arms wrapped around the chest of the suit, her hands touching the airpac on the back; her legs wrapped around the suit's thighs, so that her heels touched the backs of the flexible metal knee joints. It was a very beautiful painting, so beautiful that it almost wasn't vulgar. A pity the suit's sanitary outlet wasn't somewhere else.

Sometimes Nick wondered. Had Marda known about that suit when she married Lit?

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He entered his office, dropped into his chair and closed his eyes for a moment, ignoring Lit in one of the guests' chairs, getting used to the feel of being First Speaker again. With his eyes still closed he said, "Okay, Lit. What's been happening?"

"Got it all here," Rustle of papers. "Yah The monopole scource is coming in over the plane of the solar system, aimed at the sun. As of an hour ago it was one billion eight hundred and seven million miles out. For the past week it's shown a steady deceleration of point nine two gee. At that rate it'll stop at Earth's orbit in five days."

Nick opened his eyes. "Where will Earth be then?"

Lit looked grim. His gaunt mahogany face was built for it. "About six feet away. We checked."

"Hardly fair. The Outsider's supposed to contact us, not them. What have you done about anything?"

"Nothing concrete. Just plans and observations. We've got photos of what looks like a drive flame."

"Fusion? Chemical? Ion?"

"Fusion, but much cooler than ours."

"Can we contact that ship before it reaches Earth?"

"Yah. Mitchikov has several courses plotted. Our best bet is to start a fleet from the trailing Jupiter Trojans in about — "

"Not a fleet. We want to look harmless to this bird — assuming he can think, which we may as well. Do we have any big ships in the Trojans?"

"The *Blue Ox*. She was about to leave for Juno, but I commandeered her and had her cargo tank cleared."

"Good. Nice going." The *Blue Ox* was a mammoth fluid cargo carrier, as big as one of the Titan Hotel's luxury liners, though not as pretty. "We'll want a computer, and a good one. Also a computer tech, and some spare senses for the machine. I want to use it as a translator, and the damn Outsider might talk by eye-blinks or radio or modulated current. Can we maybe fit a singleship into the *Ox*'s cargo hold?"

"What for?"

"Just in case. We'll give the *Ox* a lifeboat. If the Outsider plays rough somebody might get away."

"He doesn't look dangerous. The drive flame is cool, about the temperature of the first fusion drives, before we had crystal-zinc fusion tubes."

"But he crossed interstellar space. Why take chances? Make sure there's a scope on him at all times from now on. Now let's see if we can call Achilles."

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Some part of his mind reflected that Shaeffer had anticipated all his needs, had even guessed that he might want to use the *Blue Ox*. Shaeffer was good. Someday he'd have Sohl's job. If you had to be a politician you might just as well be a darn good one.

It would take awhile for the operator to focus a laser on Achilles. Nick hung up to wait. And the phone went off jarringly in his hand.

"Yes?"

"This is Traffic Control," said the phone. "Cutter. Your office wanted everything concerning the big monopole scource."

Nick opened the volume control so Shaeffer could hear. "Right. What?"

"It's matching course with a Belt ship. The pilot doesn't seem to be evading contact. They'll be alongside in six hours."

Sohl's lips tightened. "What kind of ship?"

"The scope man didn't say. Probably a mining singleship. Shall I call back and try to find out?"

"Get all the information he's got. Set nearby telescopes on watch. I don't want to miss anything." Nick rang off. "You heard?"

"Yah. Finagle's First Law."

"Can we stop that Belter?"

"I doubt it."

It could have been anyone. It turned out to be Jack Brennan.

He was several hours from turnover en route to Earth's Moon. The Mariner XX's discarded whistlejet rode his hull like an undernourished Siamese twin. Its whistle was still fixed in the blunt nose, the whistle whose pitch had controlled the rate at which the core burned. Brennan had crawled inside to look, knowing that a damaged whistle might lower the relic's value.

For a used one-shot, the relic was in fine shape. The nozzle had burned a little unevenly, but not seriously so; naturally not, for the Mariner XX had reached its destination. The Museum of Spaceflight would pay plenty for it.

In the Belt smuggling is illegal, but not immoral. Smuggling was no more immoral to Brennan than forgetting to pay a parking meter would have been to a flatlander. If you got caught you paid the fine and that was it.

Brennan was an optimist. He didn't expect to be caught.

He'd been accelerating for four days at just short of one gee. The Uranus orbit was far behind him, the flatland system far ahead. He was going at a hell of a clip. There were no observ-

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able relativity effects, he wasn't going *that* fast, but his watch would need resetting when he arrived.

Have a look at Brennan. He masses one hundred and seventy-eight pounds per one gee, stands six feet two inches tall. Like any Belter, he looks much like an undermuscled basketball player. Since he's been sitting in that control couch for most of four days, he's beginning to look and feel crumpled and weary. But his brown eyes are clear and steady, twenty-twenty, having been corrected by microsurgery when he was eighteen. His straight dark hair is a strip of foliage running across a brown polished scalp. Since he's Caucasian, his Belter tan is no darker than cordovan leather; as usual it covers only his hands and his face and scalp above his neck. Elsewhere he is the color of a vanilla milkshake.

He is forty-five years old. He looks thirty. Gravity has been kind to the muscles of his face, and growth salve to the potential bald patch at the crown of his head. But the developing fine lines around his eyes stand out clearly now, since he has been wearing a puzzled frown for the past twenty hours.

Something was following him.

At first he'd thought it was a goldskin, a Ceres cop. But what would a goldskin have been doing that far from the sun?

Even at second glance it couldn't have been a goldskin. Its drive flame was too fuzzy, too big, not bright enough. At third glance, which included a few instrument readings, Brennan realized that it must have come from beyond Pluto. Brennan was accelerating, but the stranger was decelerating and still had enormous velocity. Either it was from beyond Pluto, or its drive generated tens of gees. Which gave the same answer.

The stranger was an Outsider.

How long had the Belt been waiting for him? Let any man spend sufficient time between the stars, even a flatland moonship pilot, and someday he would realize just how *deep* the universe really was. Billions of light-years deep, with room for anything at all. Beyond doubt the Outsider was out there somewhere: the first alien species to contact Man was going about its business beyond the reach of the Belt telescopes.

Now the Outsider was here, matching courses with Jack Brennan.

And Brennan wasn't even surprised. Wary, yes, even frightened. But not surprised, not even that the Outsider had chosen

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him. That was an accident of fate, dependent on the Outsider's origin and drive systems and on Brennan's finding a lost relic of the early space age.

Call the Belt? The Belt must know already. Brennan's monopole detector was having cat fits. Even without that, the Belt telescope net tracked every ship in the system; the odds were that it would find any wrong-colored dot moving at the wrong speed. Brennan had expected them to find his own ship, had hoped they wouldn't find it soon enough. Certainly they'd found the Outsider. Cerainly they were watching it: and by virtue of that fact they must be watching Brennan too. In any case Brennan couldn't laser Ceres. A flatland ship might pick up the fringes of the beam. Brennan didn't know the Belt policy on letting Earth meet Outsiders. That policy had never been tested.

The Belt must make its own decisions.

Which left Brennan with two of his own.

One was easy. The Belt must have found him now, through the intervention of the Outsider. That changed the odds. Brennan was no longer a smuggler. Therefore he must alter course to reach one of the major asteroids, and he must call the Belt the first chance he had to advise them of his course.

But what of the Outsider?

Evasion tactics? Easy enough. Axiomatically, it is impossible to stop a ship in space. A cop can match course with a smuggler, but he cannot make an arrest unless the smuggler cooperates — or runs out of fuel. He can blow a ship out of space, or even ram with a good autopilot; but how can he connect airlocks with a ship that keeps firing its drive in random blasts? Brennan could head anywhere, and all the Outsider could do was follow or destroy him.

Running would be sensible. Brennan did have a family to protect. He and Charlotte had had two daughters. Brennan had paid the customary fee in trust each time; his daughters would be raised and educated. But he could do more for them. Or he could become a father again; probably with Charlotte. There was money strapped to his hull. Money was power. Like electrical or political or psychic power, its uses could take many forms. Charlotte, of course, could take care of herself; she was an adult Belter, hence a self-sufficient individual.

If he contacted the alien he might never see her again. There was risk in being first to meet an alien species.

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And, of course, obvious honors.

Could history *ever* forget the man who met the Outsider?

That decided him; that and his natural optimism. Brennan held his course. Let the Outsider come to him.

The Belt is a web of telescopes. Hundreds of thousands of them.

It has to be that way. Every ship carries at least one telescope. Every asteroid has to be watched constantly, because a map of the solar system has to be up-to-date by seconds. The light of every fusion drive has to be watched. Because ships can run through each others' exhausts if someone doesn't warn them away; and the exhaust of a fusion motor is deadly.

Nick Sohl kept glancing up at the screen, down at the stack of dossiers on his desk, up at the screen. The screen showed two blobs of violet light, one bigger than the other, and fuzzy. Already you could get them both on the same screen, because the asteroid taking the pictures was nearly in line with their course.

He'd read the dossiers several times. Ten of them; and each represented a man who might be *the* man, the unknown Belter now approaching the Outsider. There had been a dozen dossiers. In the outer offices men were trying to locate and eliminate these ten as they had already found two, by phone calls and com lasers and dragnets.

Since the guy wasn't running, Nick privately eliminated six of the dossiers. Two had never been caught smuggling: the mark of an overcautious man, regardless of whether he'd never smuggled or never been caught. One was a xenophobe. Three were old-timers; you don't get to be an old-timer in the Belt by taking foolish chances. In the Belt, the Finagle Laws and Murphy Constants are only half a joke.

One of four miners was about to meet the Outsider.

Which?

IV

A million miles short of Jupiter's orbit, moving well above the plane of the solar system, Phssthpok matched velocities with the native ship and began to close in.

Of the thousands of sentient species in the galaxy, Phssthpok and Phssthpok's race had studied only their own. They had never been interested in anything but Pak. A protector's intelligence was high; but intelligence is a tool to be used toward a goal, and goals are chosen from instinct.

Phssthpok was working strict-

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ly from ignorance. All he could do was guess.

At a guess, then, and assuming that the oval scratch in the native's hull was really a door, the native would be not much taller and not much shorter than Phssthpok. Say, three to ten feet tall, depending on how much "elbow room" it needed. Of course the oval might not be designed for the native's longest length, as for the biped Phssthpok. But the ship was small; it wouldn't hold something too much larger than Phssthpok.

He'd need just one look at the native. If it were not a Pak, he would need to ask it questions. If it were —

There would still be questions, many of them. But his search would be over. A few ship's days to reach GO Target #1 - 3, a short time to learn their language and explain how to use what he'd brought, and he could stop eating.

It showed no awareness of Phssthpok's ship. A few minutes and he would be alongside, yet the stranger made no move — cancel. The native had turned off its drive. Phssthpok was being invited to match courses.

Phssthpok did. He wasted neither motion nor fuel; he might spend his whole life practicing for this. His lifesystem coasted alongside the native ship and stopped.

His pressure suit was on, but he made no move. Phssthpok dared not risk his own person, not when he was so close to victory. If the native would only step out on the hull . . .

Brennan watched the ship come alongside.

It was like no ship he'd ever seen. There were three small capsules spaced eight miles apart. He saw no cable joining them; it must have been invisibly thin. Section one was the drive, a long, thick cylinder with three fusion plants jutting at angles. Big as it was, the cylinder must be too small to contain fuel for an interstellar joyride. Either the Outsider had dropped expendable tanks along the way, or he had developed a ramscoop magnetic field for picking up interstellar hydrogen. Probably the latter. Monopoles would be vital in a ramscoop, and the Outsider was *loaded* with monopoles.

Section two was a sphere some sixty feet across, mounted on gymbals. When the ship finally stopped moving, this section was directly opposite Brennan. A large circular window stared out of that sphere, bulging a little, making the sphere look like a great eyeball. The eyeball turned to follow Brennan as it moved past. Brennan found it difficult to match that uncanny stare.

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He was beginning to have second thoughts. Surely the Belt could have planned a better meeting than this . . .

The trailing pod — he'd gotten a good look at it as it went by. It was egg-shaped and smooth, perhaps sixty feet long by forty feet through. The big end, facing away from the drive section, was so uniformly pitted with dust grains that it looked sandblasted. The small end was pointed and smooth, almost shiny. Brennan nodded to himself. A ramscoop would have protected the small end during acceleration. During deceleration its trailing position would have done the same.

There were no breaks in the egg.

It was, thought Brennan, a peculiar way to build a ship. The center pod must be the lifesystem, because it had a porthole and the trailing pod did not. And the drive was dangerously radioactive; otherwise, why string the ship out like this? But that meant that the lifesystem would protect the trailing pod from the drive radiation. Whatever was in that trailing pod must be more important than the pilot . . . in the opinion of the pilot.

Unless the pilot and the designer had both been inept or insane.

The Outsider ship was motionless, its drive growing cold, its lifesystem a few hundred feet away. Brennan waited.

I'm being chauvinistic, he told himself. *I can't judge an alien's sanity by Belt standards, can I?*

Sure I can. That ship is bad designing.

The alien stepped out onto its hull.

Every muscle in Brennan jerked as he saw it. The alien was a biped; it looked human enough from here. But it had stepped *through* the porthole. It stood on its own hull, motionless.

It had two arms, two legs, one head. It used a pressure suit. It carried a weapon or a reaction pistol; there was no way to tell. But Brennan saw no rocket backpac. A reaction pistol takes a good deal more skill. Who'd use one in open space?

Of course. For Brennan.

For a wild moment he considered starting the drive *now,* get the hell away before it was too late! Cursing his fear, Brennan moved deliberately to the door. The men who built the singleships had built as cheaply as possible. His ship had no airlock; there was just the door and pumps to evacuate the lifesystem. Brennan's suit was tight. All he had to do was open the door.

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He opened the door and stepped out on sandal magnets.

The seconds stretched away as Brennan and the Outsider examined each other. *It looks human enough,* Brennan thought. *Biped. Head on top. But if it's human, and if it's been in space long enough to build a starship, it can't be as inept as this ship says it is.*

Have to ask it what it's carrying. Maybe it's right. Maybe its cargo is worth more than its lift.

The Outsider jumped.

It fell toward him like a falcon diving. Brennan stood his ground, frightened, but admiring the alien' skill. The alien didn't need its reaction pistol. Its jump had been perfect. It would land right next to Brennan.

The Outsider hit the hull on springy limbs, absorbing its momentum like an experienced Belter. Brennan saw dimly through its faceplate. He recoiled, actually took a step backward. The thing was ugly, hideously ugly. Chauvinism be damned: the Outsider's face would stop a computer.

The one backward step didn't save him.

The Outsider was too close. It reached out, wrapped a pressurized mitten around Brennan's wrist and jumped.

Brennan gasped and, too late, tried to jerk away. The Outsider's grip was like spring steel inside its glove. They were spinning away through space toward the eyeball-shaped lifesystem, and there was not a thing Brennan could do about it.

"Nick," said the intercom.

"Here," said Nick Sohl. He'd left it open.

"The dossier you want is labeled 'Jack Brennan.'"

"How do you know?"

"We called his woman. He has only one, and two kids. We had to convince her it was urgent, but she finally told us he'd gone off to search the Uranus trojans points."

"That ties in. Thanks, Cutter. Do something for me."

"Sure. Official?"

"Yes. See to it that my ship is fueled and provisioned and kept ready until further notice. Fit it with solid strap-ons. Then get a com laser focused on the U. N. and keep it focused. You'll need three, of course." For relays as the Earth rotated.

"Okay."

Nick reached for the dossiers. The situation was so damn fluid that it was well to be ready for anything, even the need for Earth's help. If he needed the flatlanders, he'd need them badly and quickly. The surest way to convince them would be to go himself. The First Speaker had

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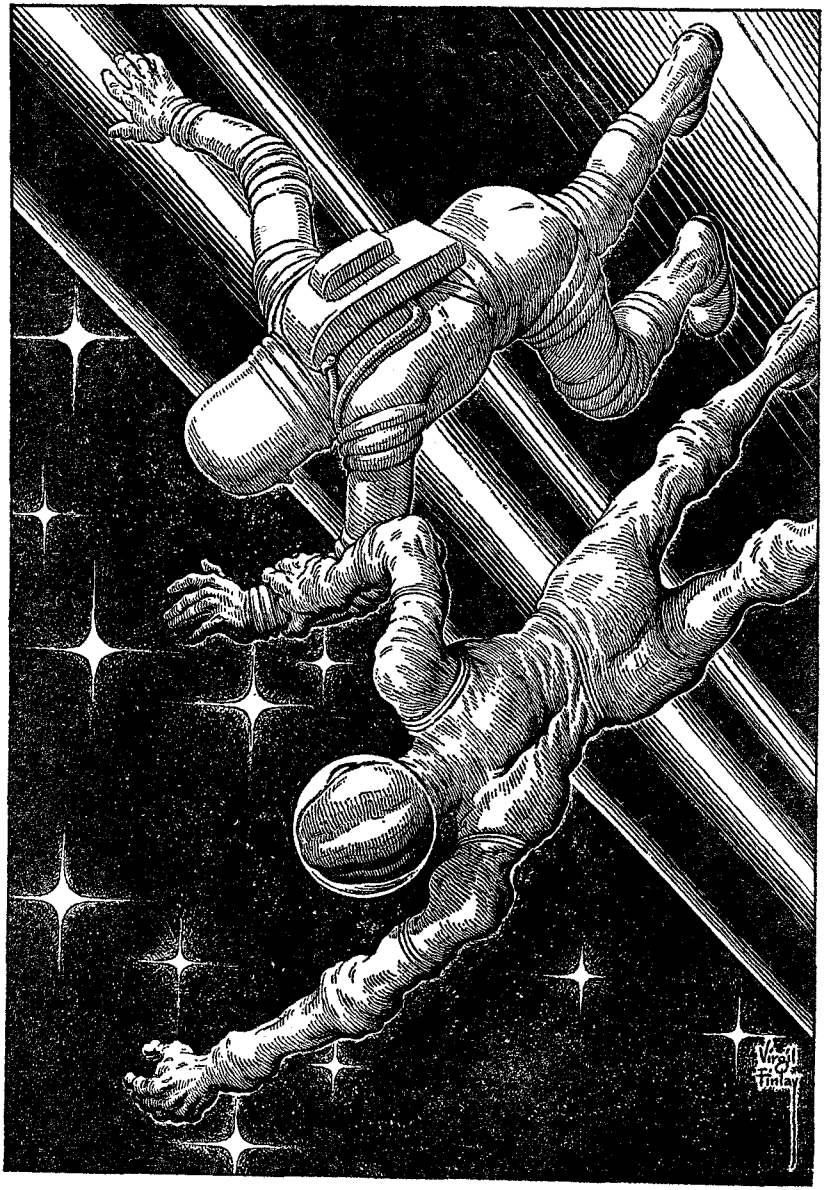

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never touched Earth, had never expected to and didn't now; but *The Perversity of the Universe Tends Toward a Maximum.*

Too bad Brennan had children. Nick began to skim his dossier.

Phssthpok's first clear memories dated from the day he woke to the fact that he was a protector. He could conjure blurred memories from before: of pain, fighting, discovering new foods, experiences in sex and affection and hate and tree climbing in the Valley of Pitchok; watching curiously, half a dozen times, as various female breeders bore children he could smell were his. But his mind had been vague then. As a protector he thought sharply and clearly.

At first it had been unpleasant. He had had to get used to it. There had been others to help him, teachers and such.

There was a war, and he had graduated into it. Because he had to develop the habit of asking questions, it had been years before he understood just what had started it.

Three centuries earlier several hundred major Pak families had allied to refertilize a wide desert area of the Pak world. The heartbreakingly difficult task had been completed a generation ago. Immediately and predictably the alliance had split into several smaller alliances, each determined to secure the land for its own descendants. By now most of the earlier alliances were gone. A number of families had been exterminated, and the surviving groups changed sides whenever expedient to protect their blood lines. Phssthpok's blood line now held with South Coast.

War, Phssthpok found, was immensely enjoyable. Not because of the fighting. As a breeder he'd had fights, and war was not as much a matter of fighting as of outwitting the enemy. At its start, the war had been fusion-bomb war. Many of the families had died during that phase, and part of the reclaimed desert became desert once again. Then South Coast had found a damper field to prevent fissionables from fissioning. Others had swiftly copied it. Since then the war had been artillery, poison gas, bacteria, psychology, even infantry. It was a war of wits. Could South Coast counteract propaganda designed to split off the Meteor Bay region? If Eastersea Alliance had an antidote to river poison Iota, would it be faster to steal it from them or invent our own? If Circle Mountains should find an innoculation for bacterial strain Zeta-three, how likely was it they'd turn a mutated strain against us? Should we

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stick with South Coast, or could we do better with Eastersea? It was fun.

Until, forty years after Phssthpok became a protector, Eastersea Alliance built a pinch field generator which could set off a fusion reaction without previous fission.

The war ended in a week. Eastersea had the recultivated desert, the part that wasn't bare and sterile from seventy years of war. And there had been a mighty flash over the Valley of Pitchok.

The pups and breeders of Phssthpok's line had lived in the Valley of Pitchok for unremembered generations. He'd seen that awful light on the horizon and known that all his descendants were dead or sterile, that he had no blood line left to protect, that all he could do was to stop eating until he was dead.

He hadn't felt that way since. Not until now.

But even then, thirteen centuries ago in biological time, he hadn't felt this awful confusion. What *was* this pressure-suited thing at the end of his arm? It *looked* like one of those he'd come to save, as far as he could tell from the shape of the suit. But those — *they* couldn't have built ships or pressure suits.

Phssthpok's sense of mission had held steady for more than twelve centuries. Now it was drowning in pure confusion.

But wait! He knew nothing of other intelligent species, besides the theoretical certainty that they existed. The biped form might not be unique to Pak. Why should it be? Phssthpok's shape was good designing. If he could see this native without its suit . . .

They landed next to the porthole. The Outsider's aim was inhumanly accurate. Brennan didn't try to fight as the Outsider reached through the surface of the porthole, grasped something and pulled them both inside. The transparent material resisted movement, like a layer of non-stick tar with air on both sides.

In quick, jerky movements, the alien stripped off its pressure suit. The suit was flexible fabric, including the transparent bubble; there were drawstrings at the joints. With its suit off, but still maintaining its iron grip on Brennan, the alien turned to look at him.

Brennan wanted to scream.

The thing was all knobs. Its arms were longer than human, with a single elbow joint in something like the right place; but the elbow was a ball seven inches across. The hands were like strings of walnuts. The

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shoulders and the knees and the hips bulged like cantaloupes. The head was a tilted melon on a nonexistent neck. Brennan could find no forehead, no chin. The alien's mouth was a flat, black beak, hard but not shiny, which faded into wrinkled skin halfway between mouth and eyes. Two slits in the beak were the nose. Two human-looking eyes were protected by not at all human-looking masses of deeply convoluted skin and by a projecting bony shelf of brow. From the beak, the head sloped backward as if streamlined. A bony ridge rose from the swelling skull, adding to the impression of streamlining.

The hands were adorned with five short fingers tipped with retractible claws. They felt like ball bearings pressing deep into the skin of Brennan's arm.

Thus, the Outsider. Not merely an obvious alien. Come to that, a dolphin was an obvious alien, but there was nothing horrible about a dolphin. The Outsider was horribly alien. It looked like a cross between human and . . . something else. Man's monsters have always been that. Think of the mermaid, now considered funny, originally considered a horror: all lovely enticing woman above, all scaly monster beneath. And that fitted too, for the Outsider was apparently sexless, with nothing but folds of armorlike skin between its legs.

The inset eyes, human as an octopus eye, looked deep into Brennan's own.

Abruptly, before Brennan could move to fight back, the Outsider took two handfuls of Brennan's rubberized suit and pulled them apart. The suit held, stretched, then ripped from crotch to chin. Air puffed, and Brennan felt his ears pop.

No point in holding his breath. Several hundred feet of vacuum separated him from his ship's breathing air. Brennan sniffed cautiously.

The air was thin, and it carried a strange scent.

"You son of a bitch," said Brennan. "I could have died."

The Outsider didn't answer. It had stripped off Brennan's suit like peeling an orange, without unnecessary roughness but without excessive care. Still its hand attached it to Brennan like a ball-and-chain. It wore nothing more than a vest with big pockets, a human-seeming garment as strange on the Outsider as a snap-brim fedora on Frankenstein's monster. Its skin was like leather armor.

The alien's gaze moved over Brennan, feet to head, head to feet, insultingly familiar. In the

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regions of the Belt where air and temperature were controlled, the Belters practiced nudism all their lives. Never before had Brennan felt *naked*. Not nude, but naked. Defenseless. Alien fingers reached to probe his scalp along the sides of the Belter crest; massaged the knuckles of a human hand, testing the joints beneath the skin. At first Brennan fought furiously. He couldn't even distract the alien's attention. Then he waited, limp with embarrassment, enduring the examination.

Abruptly it was over. The knobby alien jumped across the room, dug briefly into a bin along one wall, removed a big, plastic bag. Brennan thought of escape; but his suit was in ribbons. The alien ran fingers along the bag, and the bag popped open as if he'd used a zipper.

The alien jumped at Brennan, and Brennan jumped away. It bought him nearly thirty seconds of relative freedom. Then knobby steel fingers closed on him and pushed him gently into the sack.

Brennan found he couldn't open it from inside. "I'll suffocate!" he screamed. The alien made no response. It wouldn't have understood anyway. It was climbing back into its suit.

Oh, no, thought Brennan. He struggled to rip the bag.

The alien picked up the bag and moved out through the porthole. Brennan felt the bag puff out around him, thinning the air inside even further. He stopped struggling instantly. He waited with the fatalism of despair while the alien moved around the eyeball-shaped hull to where an inch-thick line of smooth plastic stretched away in the direction of the trailing pod.

Brennan was all alone in a small space.

The Outsider was gone. It had jumped into space with the Brennan-bag, balanced itself against the bag and used its reaction pistol. The trip had taken twenty minutes. Brennan had been near suffocation when they finally arrived at the trailing pod.

The Outsider had touched some small tool to the hull, then pulled them both through a viscous surface that looked like metal from both sides. It had unzipped the bag, turned and jumped and vanished through the entrance while Brennan was still tumbling helplessly in air.

The air was the same as in the cabin, except that the peculiar scent was much stronger. Brennan drew it in in great rarified gasps.

The lighting was greener than the sunlight tubes he was used to. The only clear space was the space he floated in, no bigger

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than the lifesystem of a two-man mining ship. On his right were a number of squarish crates whose material was almost wood, certainly a plant of some kind. To his left, a massive rectangular solid with a lid, almost like a big deepfreeze. Above, a curved wall.

So he'd been right. This was a cargo hold.

And all through the air, a peculiar scent, like an unfamiliar perfume. The smell in the lifesystem had been an animal smell, the smell of the Outsider. This was different.

Below him, behind a net of coarse weave, were things that looked like yellow roots. If there were no hidden motors or other sections behind them, they must have occupied most of the cargo hold. Brennan jumped down at them, wrapped his fingers in the net to bring his eyes close.

The smell became hugely more intense. He'd never smelled, imagined, dreamed anything like it.

Close up, they still looked like pale yellow roots: a cross between a sweet potato and a peeled piece of the root of a small tree. They were squat and wide and fibrous, pointed at one end and knife flattened at the other. Brennan reached through the net, got a two-finger grip on one, tried to pull it through the net and couldn't.

He'd had breakfast just before the Outsider pulled alongside. Yet, with no warning grumblings in his belly, suddenly he was ravenously hungry. He stabbed his fingers through the net, grasped for the roots. For minutes he tried to pull one through holes which were just too small. He tore at the net, raging. The net was stronger than human flesh; it would not tear, though fingernails did. He screamed his frustration, and the scream brought him to his senses.

Suppose he did get one out? What then?

EAT IT! cried his belly and viscera, commanding. His mouth ran saliva.

It would kill him. An alien plant from an alien world, a plant obviously regarded a food by an alien species. He should be thinking of a way out of here!

Yet his fingers were still tearing at the net. Brennan kicked himself away. He was *hungry*. The fragments of his suit were gone, left behind in the alien lifesystem, including the water and food-syrup nipples in his helmet. Was there water in here? Could he trust it? What guarantee had he that the Outsider had a use for partially burnt hydrogen?

What would he do for food?

He had to get out of here.

But he couldn't move around in that plastic bag; even in his

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own suit it would have been risky, jumping across eight miles of space without a back pac.

He had to distract his stomach somehow.

Why were the contents of this hold so valuable? How could they be more valuable than the pilot, who was needed to get them to their destination?

Might as well see what's here.

The rectangular solid was a glossy, temperatureless material. Brennan found the handle easily enough, but it wouldn't budge under his pull. Then the enticing smell of the roots made a concerted attack on his hunger, and he yelled and pulled with all the strength of killing rage. The handle jarred open.

It was filled with seeds, large seeds like almonds, frozen in a matrix of frost, bitterly cold. He wrenched one loose with numbing fingers. The air about him was turning the color of cigarette smoke when he closed the lid.

He put the seed in his mouth, warmed it with saliva. It had no taste; it was merely cold, and then not even that. He spit it out.

So. Green light and strange, rich-smelling air. But not too thin, not too strange; and the light was cool and refreshing.

If Brennan liked the Outsider's lifesystem, the Outsider would like Earth.

He'd brought a crop to plant, too. Seeds, roots, and . . . and what?

Brennan kicked across the clear space to the stack of crates. Not all the strength of his back and legs would tear a crate loose from the wall. Contact cement? But a lid came up with great reluctance and a creaking noise. Sure enough, it had been glued down; the wood itself had torn away. Brennan wondered what strange plant had produced it.

Inside was a sealed plastic bag. Plastic? It looked and felt like a strong commercial sandwich wrap. What was inside felt like fine dust packed nearly solid. It was dark through the plastic.

Brennan floated near the crates, one hand gripping the torn lid, wondering . . .

An autopilot, of course. The Outsider was only a backup for the autopilot; it didn't matter what happened to him, he was only a safety device. The autopilot would get this crop to wherever it was going.

To Earth. But a crop meant other Outsiders, following.

He had to warn Earth.

How?

Brennan laughed at himself. Was ever a man so completely trapped? The Outsider had him. Brennan, a Belter and a free man, had allowed himself to be-

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come property. His laughter died into despair.

Despair was a mistake. The smell had been waiting to pounce. . . . It was the pain that brought him out of it. His hands were bleeding from cuts and abrasions. There were sprains and blisters and bruises. His left finger screamed its agony at him; it stuck out at a strange angle, and it swelled as he watched. Dislocated or broken. But he'd torn a hole in the net, and his right hand gripped a fibrous root.

He threw it as hard as he could and instantly curled in upon himself, hugging his knees as if to surround his pain and smother it. He was angry and scared. Why, that damnable smell had turned off his mind as if he were no more than a child's toy robot! Worse, his body had ignored his wishes as thoroughly as had the Outsider.

He floated through the cargo space like a football, hugging his knees and crying. He was hungry and angry and humiliated, but most of all he was scared. The Outsider had seared his mind with his own unimportance. He had slapped his fists against the Outsider's blank, hard face, but the Outsider had ignored him, holding him out for inspection like a judge in the Toy group at a dog show. When Brennan kicked him where his groin should have been, the alien had noticed and looked down, watched as Brennan kicked again, returned to his inspection . . .

But *why?* What did the Outsider want with him?

Something smacked him across the back of his head. In one fluid motion Brennan snatched the missile out of the air and bit into it. The root had returned to him on a ricochet orbit. Its taste was as indescribable and as delicious as its scent.

In a last lucid moment Brennan wondered how long he would need to die. He didn't much care. He bit again, and swallowed.

V

There were few big cargo ships in the Belt. Most miners preferred to haul their own cargo. The ships which hauled the large cargos from asteroid to asteroid were not large; they were simply furnished with a great many attachments. To haul a large cargo, the crew strung it out on the attachments, in nets or on lightweight shelves, sprayed foam plastic to protect whatever they were hauling, covered the bottom of the nets or shelves with special reflective foil to ward off the searing light of the drive, and took off at low power.

The *Blue Ox* was a special

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case. She hauled fluids and fine dusts: refined quicksilver and mined water, grain, seeds, highly impure tin scooped molten from lakes on dayside Mercury, mixed and dangerous chemicals from Jupiter's atmosphere. Such cargos were not always available for hauling. So the *Ox* was a huge tank with a small threeman lifesystem and an adequate propulsion system; but, since she must sometimes carry bulky objects instead of seeds or fluids, her big tank had been designed with a big lid.

Einar Nilsson stood at the rim of that lid, looking in. He was seven feet tall and overweight for a Belter, and that was overweight for anyone, for the fat had gone into his belly and second chin. The device on his suit was a Viking ship with snarling dragon prow, floating not in space but in the bright, milky swirl of a spiral galaxy.

The singleship in the *Ox*'s tank was Nilsson's own. There was a new Adzhubei 4-4 computer; there were machines intended to serve as the computer's senses and speakers, radar and radio and sonics and monochromatic lights. Each item was tethered separately, half a dozen ways, to hooks on the inside wall of the tank.

Nilsson nodded, satisfied, his graying red Belter crest brushing the crown of his helmet. "Fire," he said.

Tim Truesdale began spraying fluid into the tank. In thirty seconds the tank was filled with foam which was already hardening.

"Close the lid."

It was done.

"Get aboard, Tim. Nate, how much time we got?"

"Another twenty minutes to catch the optimum course," said the young voice.

"Okay, call Ceres. Ask for permission to take off. We'll have to take off before it comes, but we might as well ask."

"Sold," said the young voice, and clicked off. Nathan was young, but not young enough to waste words over a phone. He learned fast. Einar had taken him on at the request of his father, an old friend.

He'd taken Tim because Tim could obey orders. Perhaps too much so. Tim had been a flatlander until he was twenty, and flatlanders were not high on originality. But Tim had sense, and he'd lived in the Belt for eight years.

Einar finished sealing the lid over the hardened foam plastic, then jumped for the airlock, following Tim. They were going to meet the first alien to reach the solar system in human history; but it never occurred to him to

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doubt the competency of either of his men. They were Belters. And they would be cautious.

"Nick?"

"Here." Nick picked up his tea bottle, found it empty. There was a plate beside it, also empty.

"The *Blue Ox* wants to take off."

"Send 'em permission."

"Okay. But I notice they aren't armed."

"They've got a fusion drive, don't they? And oversized steering jets to aim it. The drive is all the weapon they'll need."

Cutter clicked off.

Nick stared at the screen for a moment, with his eyes squinched shut so the strain lines showed like webs around the eyelids. Was he right? He was ninety percent sure he was. Even an H-bomb would be less effective as a weapon than the directed hydrogen explosion from a fusion drive. And an H-bomb was an obvious weapon, an insult and a challenge to a peace-loving Outsider.

Four blobs showed on the screen. Without the fusion drives they were dark-on-dark, hard to see, but Nick could see that the Outsider ship was strung out into three parts. A poor way to build a ship, unless your shielding was very bad. That middle section, well, it might contain anything, including a reserve fuel supply; but principly it must be a shield for the lifesystem. The blobs hadn't changed motion for hours.

The waiting was a strain.

Nick went back to Brennan's dossier. It was thin. They were all thin. Belters wouldn't have accepted a government which kept more than minimal tabs on them.

John Fitzgerald Brennan was very much the average Belter. Forty-five years of age. Two daughters by the same woman, Charlotte Leigh Wiggs, a professional farming machine repairwoman in Confinement. Brennan had the beginnings of a nice retirement fund, though it had been drained twice to establish trust fund for his children. He had twice lost loads of radioactive ore to the goldskins and the Belt smuggling laws. Once would have been typical. Belters laugh at inept smugglers, but a man who's never been caught may be suspected of never having tried. No guts.

His suit design proclaimed him a Dali fan. Nick frowned. Miners sometimes lost their grip on reality, *out there*. But Brennan was alive, and fairly well off on his own earnings.

Twenty years ago he'd worked with a crew, mining molten tin

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on Mercury's dayside. Because of the Sun's magnetic field, Mercury was rich with valuable nonferrous elements. The tin was easier to get at when molten. Brennan had been competent, and he'd made good money, but he'd quit after ten months and never worked with a crew again. Apparently he didn't like working with others.

Why had he let the Outsider catch him?

Silly question. Nick would have done the same. The Outsider was here in the system; somebody had to meet him. Running would have been an admission that Brennan couldn't handle such a meeting. No miner would make that admission.

His family wouldn't have stopped him. His family were Belters; they could take care of themselves.

But I wish he'd run, thought Nick. His fingers beat a rhythmic tattoo on the desk. He'd have been a smoker, if Belters smoked.

Leaving his captive in the cargo hold, Phssthpok moved across to the native's ship. It was an hour's jump, but Phssthpok was not hurried. With his superb reflexes he didn't even need the reaction pistol.

His captive would keep. Eventually he would have to learn the alien's language, to question him about the ones Phssthpok had come to help. By now Phssthpok was sure he'd picked the wrong star. There had only been twenty-eight percent chance to start with. But with ships like this the natives might have reached other stars.

The ship was small. Phssthpok found little more than a small life-support system, a long drive tube, a ring-shaped hydrogen tank with a cooling motor and an attached something-or-other whose purpose was not obvious. The fusion tube extended far beyond the fuel ring, which was under the lifesystem. The fuel ring was so attached that it could be slipped off the drive tube and replaced by a full tank in a few minutes. Around the rim of the life-support system were a set of attachments, including several folded fine-mesh nets.

Some of the attachments — hooks — now secured a lightweight metal cylinder which showed signs of erosion. Phssthpok looked it over, dismissed it without knowing its purpose. Obviously it was not needed for the ship to function. It was some kind of cargo.

Phssthpok found inspection panels in the fusion tube and used them. Within half an hour he could build his own fusion shield, had he the materials,

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though he still didn't understand what made it go. The natives must be more intelligent than he had guessed. Or luckier. He moved up to the lifesystem and through the oval door.

The cabin included an acceleration couch, banks of controls surrounding it in a horseshoe, a space behind the couch big enough to move around in, an automatic kitchen, and attachments to several mechanical senses of types frequently used in Pak warfare. But this was not a warship. Perhaps the native's sense's were less acute than Pak senses. Behind the cabin were machinery and tanks of fluid, which Phssthpok examined with great interest.

Assume that these machines are well designed, he told himself. Then GO Target #1 - 3 is habitable. Very. A trifle heavy, both in air and in gravity. But to a people who had been traveling for five hundred thousand years, it would have looked irresistible.

Had they reached here, they would have gone no further.

And that cut Phssthpok's region of search in half. He need not look at stars further from the galactic core than this one.

The lifesystem was the most puzzling part of the ship. Phssthpok found things he flatly didn't understand, that he would never understand.

The kitchen, for instance. Weight was important in space. Surely the natives could have provided a lightweight food, synthetic if necessary, capable of keeping the pilot fed and healthy indefinitely. The saving in effort and in fuel consumption would have been enormous when multiplied by the number of ships he'd seen. Instead, they preferred to carry a tremendous variety of prepackaged foods and a complex machine to select and heat them. They had chosen to cool these foods against decomposition rather than reduce them to a powder. Why?

Pictures, for instance. Phssthpok understood photographs, and he understood graphs. But the three works of art on the back wall were neither. They were charcoal sketches. One was of the head of a native like Phssthpok's captive, but with a longer crest of hair and with weird pigmentation around eyes and mouth; the others must have been younger editions of the same species. Only heads and shoulders were shown. What was their purpose?

Under other circumstances the design on Brennan's spacesuit might have provided a clue.

Phssthpok had noticed that design and understood instantly.

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For members of a cooperative, space-going species, it would be useful to code one's suit in bright colors. Others would recognize the code at great distances. The native's design seemed overcomplex, but not enough so to rouse Phssthpok's curiosity.

For Phssthpok could never understand the human concepts of art and luxury. Luxury? A Pak breeder might have appreciated luxury, but was too stupid to make it for himself. A protector had no motivation. A protector's desires were all connected to the need to protect his blood line. As for art, there had been maps and drawings among the Pak since before Pak history. But they were for war.

You didn't recognize your loved ones by sight anyway. They *smelled* right.

Reproduce the smell of a loved one? Phssthpok might have been led to think of that, had the painting on Brennan's back been anything else. It would have been a brilliant idea! A method of keeping a protector alive and functioning long after his line was dead. If only Phssthpok had been led to understand representational art . . .

But what could he make of Brennan's suit?

Its chest was a copy in flourescent dye of Salvidor Dali's "*Madonna of Port Lligat*". There were mountains floating above a soft blue sea; there were objects which refused to touch each other; there was a supernally beautiful woman and child, with windows in them. There was nothing for Phssthpok.

One thing he understood very quickly.

It was the solar storm warning in the instrument panel. When Phssthpok opened it and ascertained its purpose, he found it surprisingly small. Curious, he investigated further. The thing was made with magnetic monopoles.

In one kangaroo leap Phssthpok was crossing interplanetary space. He fired half the gas charge in his pistol, then composed himself to wait out the fifteen minutes of fall.

He'd jumped toward the cargo section. It would be necessary to tie the native down against acceleration. Already a cursory inspection of the native's ship had cut his search area in half. The native itself might carry knowledge even more valuable. Even so, Phssthpok bitterly regretted the need to protect the native; for the time involved might mean life or death.

The natives used monopoles. The natives must have a means of detecting them. Phssthpok had captured a native — a hostile

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act. And Phssthpok's ramscoop-drive section held a bigger mass of south poles than this solar system!

Probably they were after him now.

They couldn't catch him in any reasonable time. Their drives would be a touch more powerful, since their gravity was about 1.09. But they wouldn't have ramscoops. Before their bigger drives could make a difference they'd be out of fuel.

Provided he started in time.

He braked to meet the cargo section, used his softener and ducked through the twing hull. He reached for a handhold without looking, knowing where it would be, his eyes searching for the native.

He missed the handhold. He floated across the empty space while his muscles turned to jelly and melted.

The native had broken through the net and was burrowing among the roots. His belly had become a hard, distended bulge. There was no sentience in his eyes.

And all the rules were changed.

The robot was a four-foot, upright cylinder floating placidly in one corner of the Struldbrugs' Club reading room. Its muted two-tone brown blended with the walls, making it almost invisible. Externally the robot was motionless. In its flared base fans whirred silently, holding it two inches off the floor, and inside the featureless dome that was its head, scanners revolved endlessly, watching every corner of the room.

Without taking his eyes off the reading screen, Lucas Garner reached for his glass. He found it with careful fingertips, picked it up and tried to drink. It was empty. He held it aloft, wiggled it and, still without looking up, said, "Irish coffee."

The robot was at his elbow. It made no move to take the double-walled glass. Instead, it chimed softly. Garner looked up at last, scowling. A line of lighted print flowed across the robot's chest

"Terribly sorry, Mr. Garner. You have exceeded your maximum daily alcohol content."

"Cancel, then," said Luke. "Go on, beat it."

The robot scooted for its corner. Luke sighed — it was partly his own fault — and went back to reading. The tape was a new medical tome on "The Aging Process in Man."

Last year he had voted with the rest to let the Club autodoc monitor the Club serving robots. He couldn't regret it. Not a single Struldbrug was less than one hundred and fifty-four years of

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age, by Club law, and the age requirement went up one year for every two that passed. They needed the best and most rigid of medical protection.

Luke was a prime example. He was approaching, with little enthusiasm, his one hundred and eighty-fifth birthday. He had used a travel chair constantly for twenty years. Luke was a paraplegic, not because of any accident to his spine, but because his spinal nerves were dying of old age. Central nervous tissue never replaces itself, never. The disproportion between his thin unused legs and his massive shoulders and arms and huge hands made him look a little apelike. Luke was aware of this and rather enjoyed it.

His attention was wholly on the tape he was speedreading when he was disturbed again. A barely audible murmur of voices filled the reading room with a formless, swelling whisper. Regretfully Luke turned to look.

Someone was walking in his direction, using a purposeful stride which could not have been matched by any Struldbrug. The man had the long, narrow frame of one who has spent some years on a stretch rack. His arms and the skin below his larynx were negro dark; but his hands and his heavily lined face were the black of a starless night, a true space black. His hair was a cockatoo's crest, an inch-wide strip of snow-white rug from the crown of his head to the nape of his neck.

A Belter had invaded the Struldbrugs' Club. No wonder they whispered!

He stopped before Luke's chair. "Lucas Garner?" His voice and manner were grave and formal.

"Right," said Luke.

The man lowered his voice. "I'm Nickolas Sohl, First Speaker for the Belt Political Section. Is there someplace we can talk?"

"Follow me," said Luke. He touched controls in the arm of his chair, and the chair rose on a ground-effect air cushion and moved across the room.

"You really caused an uproar in there."

"Oh? Why?" The First Speaker sprawled limp and boneless in a masseur chair, letting the tiny motors knead him into new shapes. His voice was still quick and crisp with the well known Belter accent.

Luke couldn't decide whether he was joking. "Why? For one thing, you're nowhere near admission age."

"The guard didn't say anything. He just sort of stared with his jaw hanging."

"I can imagine."

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"You know why I'm on Earth?"

"I heard. There's an alien in the system."

"It was supposed to be secret."

"I used to be an ARM — a member of the UN Technological Police. They didn't retire me until two years ago. I've still got contacts."

"That's what I heard." Nick opened his eyes. "Excuse me if I'm being rude. I can stand your silly gravity lying in a ship's couch, but I don't like walking through it."

"Relax then."

"Thanks. Garner, nobody at the UN seems to realize how urgent this is. There's an alien in the system. He's performed a hostile act, kidnapped a Belter. He's abandoned his interstellar drive, and we can both guess what *that* means."

"He intends to stay. Tell me about that, will you?"

"Simple enough. You know the Outsider ship came in three easy-to-assemble parts?"

"I found out that much."

"The trailing section must have been a re-entry capsule. We should have guessed there'd be one. About two and a half hours after Brennan made contact with the Outsider, that section suddenly disappeared."

"Teleport?"

"No, we've got one film panel that shows a blurred streak. The acceleration was huge."

"I see. Why come to us?"

"Huh? Garner, this is humanity's business."

"Let's not play games, Nick. The Outsider was humanity's business the second you spotted him. You didn't come to us until he pulled his disappearing act. Why not? Because you thought the aliens would have a better opinion if they met Belters first?"

"No comment."

"Okay. Why tell us now? If the Belt scopes can't find him, nobody can."

Nick turned off his massage chair and sat up to study the old man. Garner's face was the face of Time, a loose mask that seemed to cover ancient evil. Only the eyes and teeth seemed young; and teeth were new, white and sharp and incongruous.

But the old man talked like a Belter. He talked in straight lines; he didn't waste words, and he didn't play games. He was the sharpest flatlander Nick had met yet.

"Right," said Nick. "That's the trouble. We've found him."

VI

All the rules were changed. Phssthpok grabbed for a handhold and pushed down to

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Brennan. Brennan was limp now, his eyes half closed with the whites showing under the lids, his hand still clutching half of a root. Phssthpok set him rotating to make an examination.

All right.

Phssthpok climbed through the hull and made his way back to the large end of the egg. There he crawled back inside, emerging in a cubicle just big enough to hold him.

He needed a place to hide.

If he must stay in this system, he would have to abandon the rest of the ship. It would be like hiding all his children in the same cave, but there was no help for that.

It could have been worse. Though the instruments in the cargo hold were designed only to drop that section from orbit around some planet, the gravity polarizer would take him anywhere he wanted to go within GO Target #1's gravity well. Except that he would have to do everything right the first time. Except that he could only land once. As a ship's drive, the gravity polarizer had many of the virtues and faults of a paraglider. He could aim it anywhere he wanted to go, even after he'd killed his velocity . . . provided that he wanted to go *down*. The polarizer would not lift him against gravity.

Compared to the fusion drive controls, the controls around him were fiercely complicated. Phssthpok began twisting dials and pushing buttons. The "plastic" line at the big end of the egg separated in a puff of flame. The twing around him became transparent . . . and slightly porous; in a century it would have lost a dangerous amount of air. Phssthpok's manlike eyes took on a glassy look. The next moves would take intense concentration. He hadn't dared tie the native down or otherwise restrict him. To avoid crushing him, he would have to keep the internal and external gravities exactly balanced. The hull, which was the working part of the polarizer, might heat too much and melt at these velocities. Phssthpok's velocity indicator was good only for gross measurements.

In what was now the rear screen, Phssthpok could see the rest of his ship. He twisted two dials the barest fraction, and it vanished.

Where to now?

He'd need weeks to hide. He couldn't hope to hide on GO Target #1 - 3, considering their technology.

But he could only land once. Where he came down, he'd have to stay. And space was too open to hide in.

Phssthpok began to search the

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sky for planets. His eyes were good, and planets were big and dim, easy to spot. *That* one was GO Target #1 - 3. *That* one was a gas giant, with a ring. Hide in the rings? But that too was a one-way trip with the gravity polarizer.

That one. He'd studied it closely when he had a telescope. That was his hiding place.

Phssthpok gave vent to an E-flat whistle. He had no choice; he had had no real choice in quite some time. That planet was his target. When the time came to leave he'd have to hope the native could signal his kind.

"You've found him?"

"Sort of. He went through a smuggler trap near the end of his trip. We were looking for a bird who has the habit of coasting through populated regions with his drive off. The details aren't important. A heat sensor found the Outsider, and a camera caught a section of his course and stayed on him long enough to give us velocity, position, acceleration. Acceleration was huge, tens of gees. It's near certain he was on his way to Mars."

"Mars?"

"Mars, or a Mars orbit, or the moons. If it was an orbit we'd have found him by now. Ditto for the moons; they both have scope stations."

Luke began to laugh. Nick closed his eyes with a pained expression. As the laughter began to rise, he sat up and stared in amazement.

Luke's laughter held more concentrated evil than Nick would have imagined possible. Hardened criminals had gone straight after hearing Lucas Garner laugh.

Mars was the junkheap of the system. In truth there were few useful planets in the solar system; Earth and Mercury's dawn belt and Jupiter's atmosphere just filled the list. But Mars had proved the bitterest disappointment. A nearly airless desert, covered with craters and with seas of ultrafine dust, the atmosphere poisoned by nitric oxide. Somewhere near the pole was an abandoned base, very old, the remains of Man's third and last trip to the rusty planet. Nobody wanted Mars.

When the Free Belt Charter was signed, after the Belt had proven by embargo that Earth needed the Belt more than the Belt needed Earth, the UN had been allowed to keep Earth, the Moon, Titan, rights in Saturn's rings, mining and exploratory rights on Mercury, and Mars.

Mars was just a token. Mars hadn't counted until now.

"You see the problem," said

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Nick. He'd turned the massage unit on again. Little muscles all over his body were giving up under Earth's unaccustomed strain, stridently proclaiming their existence for the first time in Nick's life.

"Sure. Considering the way the Belt is constantly telling us to stay off their property, you can't blame the UN for trying to get a little of their own back. We must have a couple of hundred complaints on file."

"You exaggerate. Since the Free Belt Charter was signed, we've registered some sixty violations, most of which were allowed and paid for by the UN."

"What is it you want the UN to do that they aren't doing?"

"We want access to Earth's records on the study of Mars. The Belt has never been interested in Mars. We want permission to search the deserts for the Outsider. We want permission to land."

"How far have you gotten?"

"There are only two things they can agree on. We can search all we want to — from space. For letting us look at their silly records they want to charge us a flat million marks!"

"Pay it."

"It's robbery!"

"A Belter says that? Why don't *you* have records on Mars?"

"I told you, we were never interested. What for? Mars is a useless planet."

"How about abstract knowledge?"

"Another word for useless."

"Then why aren't you about to pay a million marks for useless knowledge?"

Slowly Nick matched his grin. "Just stupid, I guess. How the blazes did Earth know they'd need to know about Mars?"

"They didn't. That's the secret of abstract knowledge. You get in the habit of finding out everything you can about everything. Most of it gets used sooner or later."

"I'll authorize payment of a million marks to the UN Grand Library. Now how do we land?" Nick turned off the massage chair.

"You picked the right word. We. Can you fly a two man ship?"

"Blindfolded."

"You've flipped."

"Blindfolded."

"You're hired as my pilot at a dollar a year. I can get a ship ready in six hours."

"Not I. Look, Nick. Every so-called diplomat in the UN knows how important it is to find the Outsider. But they can't get moving. It's not because they're getting their own

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back with the Belt. That's only part of it. What counts is that the UN is a world government. It's unwieldly by its very nature, having to rule the lives of eighteen billion people. Worse than that, the UN is made up of individual nations. The nations aren't powerful nowadays. Someday not too soon, even their names will be forgotten. But today national prestige can get in the way of the total good. You'll be weeks getting them to agree.

"Whereas there's no law against a UN citizen going anywhere he wants to, or hiring anyone he wants to. A number of our round-the-Moon pilots are Belters."

Nick shook his head as if to clear it. "Garner, I don't get it. You *can't* think we can find the Outsider in a two-man ship. Even I know about Martian dust. He's hidden under there, and there's no way to get at him without a complete radar net."

"Right. But when the UN realizes that you've started searching Mars, what do you think they'll do? You being hired as a pilot is a technicality, obvious to anyone. Suppose we *find* the Outsider? The Belt would get the credit."

Nick closed his eyes and tried to think. He wasn't used to such circular logic. But it looked like Garner was right. If they thought he was going to Mars, with or without a flatlander for company, they'd send a fleet to start searching first.

"So I need a flatlander to hire me as a pilot. Fine. But why you?"

"Because I can get a ship. I've got contacts."

"You've got to be nuts. How old are you?"

"Too old to waste my few remaining years in the Struldbrugs' Club. Too young to be retired. Shake hands, Nick."

"Mph? Sure, but — Yipe! All right, damnit, so you've got strong hands."

"And we won't be using our legs. We'll be riding everywhere we go. You can't walk anywhere on Mars."

"Luke, I think I've got it. You can get a ship, right? Right. So get a ship, then get a tough explorer-type flatlander. Sell him the ship. Then he hires me as his pilot, right?"

"Right. But I won't do it."

"Blackmail?"

"Blackmail."

"You're all crazy. All of you. It comes from living at the bottom of a gravity well. The gravity pulls the blood away from your brains."

"I'll show you to a telephone. You'll have to pay in your million marks before the UN catches on where we're going."

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Phssthpok dreamed.

He stayed in the cargo hold where he could watch the native. There was food and water and no need to go outside. During the first week he had disassembled every machine in the cargo hold to make what repairs and adjustments were needed. Now he only watched his captive. The native required little care.

Phssthpok rested on his stockpile of roots and dreamed.

In a few weeks he would have completed his long, long task . . . or failed. In any case he would stop eating. He had been alive long enough to suit him. Soon he would end as he had nearly ended thirteen hundred shiptime years ago . . .

It had been a matter of time.

Phssthpok had been a protector for sixteen years. His remaining children in the radiation-blasted Valley of Pitchok were sixteen to thirty-five years of age; his living grandchildren were of all ages up to twenty-four or so. But who had survived the bomb? He had returned immediately to the Valley of Pitchok to find out.

Not many breeders were left in the valley, but such as were still alive had to be protected. Phssthpok and the rest of the Pitchok families made peace, the terms being that they and their sterile children should have the valley until their deaths, at which time the valley would revert to Eastersea Alliance. There were ways to neutralize radioactive fallout. The Pitchok families used them. Then, leaving their valley and its survivors in the hands of one of their number, they had scattered.

Of the several hundred survivors, all had been tested and all had been found essentially sterile. "Essentially" being taken to mean that if they did have children, the children would be mutants. Their smells would be altered. With no protector to look after their interests, they would quickly die.

To Phssthpok, the most important of his surviving descendants was the youngest, Ttuss, a female of two years.

It had been a matter of time. In thirty-two years Ttuss would reach the age of change. She would become an intelligent being and a heavily armored one, with skin that would turn a copper knife and strength to lift ten times her own weight. She would be ideally designed for the purpose of fighting, but she would have nothing to fight for.

She would stop eating. She would die, and Phssthpok would stop eating. Ttuss's lifespan was his own.

But sometimes a protector could adopt the entire Pak spe-

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cies as his descendants. At least he'd have every opportunity to find a purpose in life. There was always truce for a childless protector, for such never had a reason to fight. And there was a place he could go.

The library was as old as the radioactive desert which surrounded it. That desert would never be recultivated; it was reseeded every thousand years with radiocobalt so that no protector could covet it. Protectors could cross that desert; they had no gonadal genes to be smashed by subatomic particles. Reproducers could not.

How old was the desert? Phssthpok never knew and never wondered. But the section on space travel was a million years old.

He came to the Library with a number of — not friends, but associates in misery, childless former members of the Pitchok families. The Library was huge and rambling, a composite of at least a million years of Pak knowledge, crossfiled into various sections according to subject. Naturally several sections often contained the same book. The associates divided at the entrance, and Phssthpok didn't see any of them again for thirty-two years.

He spent those thirty-two years in one vast room, a floor-to-ceiling labyrinth of bookshelves. At scattered corners there were bins of tree-of-life root kept constantly filled by attendants. There were other foodstuffs brought at seeming random: meats, vegetables, fruits, whatever was available to childless protectors who had chosen to serve the Library rather than die. Tree-of-life root was the perfect food for a protector, but he could eat nearly anything.

And there were books.

They were nearly indestructible, those books. They would have emerged like fluttering meteors from the heart of a hydrogen bomb explosion. All were written more or less in the present language, and all were constantly being recopied by librarians as the language changed. In this room the books all dealt with space and space travel.

There were treatises on the philosophy of space travel. They all seemed to make a fundamental assumption: someday the Pak race *must* find a new home; hence every contribution to the techniques of interstellar flight was a contribution to the immortality of the Pak species. Phssthpok could discount that assumption, knowing that a protector who did not believe it would never write a book on the subject. There were records of inter-

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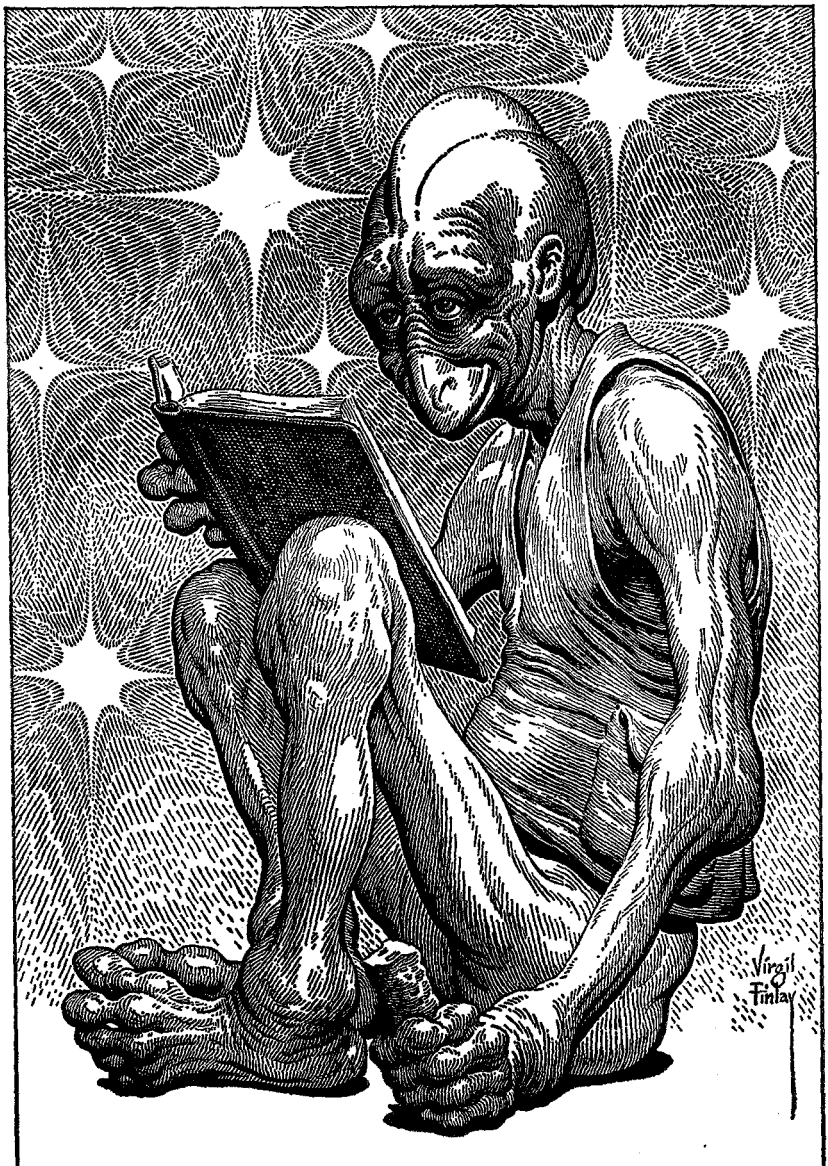

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stellar and interplanetary flights, hundreds of thousands of them, starting with a fantastic trip some group made almost a million years ago, riding a hollowed-out asteroidal rock into the arms of the galaxy in search of yellow dwarf suns. There were technical texts on everything that could possibly relate to space or spacecraft or astrogation: miniaturization, nuclear and subnuclear physics, plastics, ecology, gravity and how to use it, relativity, astronomy, astrophysics, records of extraplanetary mining, diagrams for a hypothetical ramscoop (in an unfinished work by a protector who had lost his appetite halfway through), ion drive diagrams, plasma theory.

He started at the left and began working his way around.

He'd chosen the section on space travel more or less at random; it had looked less crowded than the others. The romance of space was not in Phssthpok's soul. He kept with it rather than change endeavors in midcourse, feeling certain that he'd need every minute of his thirty-four years of grace no matter what section he chose. In twenty-eight years he read every book in the Astronautics section, and he still had found nothing that drastically needed doing.

Start a migration project? It simply wasn't that urgent. The Pak sun had at least hundreds of millions of years to live . . . longer than the Pak species, probably, considering their perennial state of war. And the chance of disaster would be high. There were no known yellow suns in the galactic core. For that and other reasons, including the probability that the entire core would someday explode in a chain reaction of novas, it would be necessary to go into the arms looking for habitable planets.

The first expedition to try that had met a horrible fate.

So. Join the Library staff? He'd thought of it many times, but the answer always came out the same. No matter what phase of the Library he concerned himself with, his life would depend on others. To retain his will to live he would need to know that all Pak would benefit from his aspect of Library work. Let there be a dry spell in new discoveries, let his faith flag, and he would find himself no longer hungry.

It was terrifying not to be hungry. During the last few decades it had happened several times. Each time he had forced himself to reread the communications from the Valley of Pitchok. The last communication always told him that Ttuss had been alive when it was sent. Gradually, time

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after time, his appetite had come back. But for Ttuss he would be dead. He had investigated the librarians and found that their lives were unusually short. The Library was no answer.

Find a way to keep Ttuss alive? There was no way. If there were he would have used it on himself.

Study theoretical astronomy? He had some ideas, but they would not help the race of Pak. The Pak did not seek abstract knowledge. Mine the asteroids? The asteroids were as thoroughly mined out as the surface of the planet had often been, with the difference that convection currents in the planet's interior eventually replaced worked-out mines. He should have gone in for metal reclamation. Now it was too late to change studies. Put plastic-bubble cities in orbit to provide more living room for breeders? Nonsense! Too vulnerable to capture or accidental destruction.

One day Phssthpok's appetite was gone. The letters from the Valley of Pitchok did not help; he did not believe them. He thought of returning to the valley, but he knew he'd starve to death on the way. When he was sure, he sat down against a wall, the last in a line of protectors who also did not eat, who were waiting to die.

A week passed. The librarians found that two at the head of the line were dead. They picked them up, a pair of skeletons clothed in dried, wrinkled leather armor, and carried them away somewhere.

Phssthpok remembered a book.

He still had the strength to reach it.

He read carefully, with the book in one hand and a root in the other. Presently he ate the root . . .

The ship had been a roughly cylindrical asteroid, reasonably pure nickel-iron with stony strata running through it, about six miles long and four through. A group of childless protectors had carved it out with solar mirrors and built into it a small life-support and controls system, a larger frozen-sleep chamber, a breeder atomic pile and generator, a dirigible ion drive, and an enormous cesium tank. They had found it necessary to exterminate the protector stage members of a large family in order to get control of a thousand breeders. With two protectors as pilots and seventy more in suspended animation with the thousand breeders, with a careful selection of the beneficial lifeforms of the Pak planet, they set out into one arm of the galaxy.

Though their knowledge was

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a million years scantier than Phssthpok's, they had good reasons for choosing an arm. Most of the stars around them were Population II. They'd have a better chance of finding yellow suns out there, and a better chance of finding a double planet in the right place. Perturbations from stars an average of half a light-year away made double planets scarce in the Core; and there was reason to think that only an oversized moon could give any world an atmosphere capable of supporting Pak-style life.

An ion drive and a certain amount of cesium . . . They expected to move slowly, and they did. At twelve thousand miles per second relative to the Pak sun, they turned off the ion motor. They then fired a laser message at the Pak system to tell the Library that the ion drive had worked. The blueprints were somewhere in the Library, with a list of suggested design changes.

The next and last section of the book was nearly five hundred thousand years newer. It was a record of a laser message which had come plowing through the Pak system, torn and attenuated and garbled by dust and distance, in a language no longer spoken. Someone had translated it and filed it here. Hundreds of searchers like Phssthpok must have read it and wondered about the part of the story they could never know and passed on . . .

But Phssthpok read it very carefully.

They had traveled an enormous distance into the galactic arm. Half the protectors had been used up when they arrived, dying not of starvation nor of violence but of age. This was so unusual that a detailed medical description had been sent with the message. They had passed yellow suns with no planets, other yellow suns whose worlds were all gas giants. Yellow suns had gone by carrying potentially habitable worlds; but all were too far off course to be reached on the maneuvering reserve of cesium. Galactic dust and the galaxy's gravity had slowed their strange craft, increasing the maneuver reserve. The sky darkened around them as suns became rare.

Presently they had found a planet.

They had braked the ship, transferred what was left of the plutonium to the piles of the landing craft, and gone down. The decision was final. If the planet failed to measure up they would have to work for decades to make their ship spaceworthy again.

It had life. Some was inimical,

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but none that could not be handled. There was soil. The remaining protectors woke the breeders and turned them loose in the forests, planted their crops, dug mines, made machines to dig more mines, made machines to tend the crops . . .

The black, nearly starless night sky bothered some, but they got used to it. The frequent rains bothered others, but did not hurt the reproducers, so that was all right. There was room for all, so the protectors did not even fight. None stopped eating. There were predators and bacteria to exterminate, there was a civilization to build, there was too much to do.

When spring came, most of the planted crops did not come up. There was no tree-of-life at all.

They could not return to space. Cesium they could get, but they could never build a uranium-producing technology in the time they had left.

Finally, knowing they were lost, they had tried to build a laser beam big enough to pierce the dust clouds hiding them from the core. They did not know they had succeeded. They did not know what had killed their crops; they suspected it might be the sparsity of a particular kind of starlight, or starlight in general. They gave detailed information on the blood lines of their breeder cargo, hoping that some of the line might survive. And they asked for help.

Five hundred thousand years ago.

Phssthpok sat by the root bin, eating and reading. He would have smiled if his face had been built that way. Already he could see that his mission would involve every childless protector on the Pak planet.

For five hundred thousand years those breeders had been living without tree-of-life. Without any way to make the change to the protector stage. Dumb animals.

And Phssthpok alone knew how to find them.

Nick took the ship up on a ram-and-wing rented from Death Valley Port. It went up smooth all the way, no turbulence, a lovely scenic ride up and out over the Pacific. One hundred and fifty miles up Nick switched to fusion power and headed outward, leaving the ram-and-wing to find its own way home.

The sky turned black, with bright points. The Earth wrapped itself around itself and dropped behind. It was four days to Mars at one gee, with Ceres to tell them which asteroids to dodge.

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Nick put the ship on autopilot. It was a flatland navy job, unfamiliar to him but simple enough for a moron to use. He *could* have flown it blindfolded.

Luke said, "Okay to smoke?"

"If you *want* lung cancer."

"Does the UN have its money yet?"

"Sure. They must have got it transferred hours ago."

"Good. Call them, identify yourself and ask for everything they've got on Mars. Tell them to put it on the screen and you'll pay for the laser. That'll kill two birds with one stone."

"How?"

"It'll tell them what we're doing."

"I still don't see it. You say they're so unwieldy they can't move. How will our going to Mars make them less unwieldy?"

"Look at it from another direction, Nick. How did the Belt come to choose you to represent them?"

"Aptitude tests said I had a high IQ and liked ordering people around. From there I worked my way up."

"Okay. We go by the vote."

"Popularity contests."

"It works. But it does have drawbacks. What government doesn't?" Garner shrugged. "Every speaker in the UN represents some one section of the world. He thinks it's the best section, filled with the best people. Otherwise he wouldn't have been elected. So maybe twenty representatives each think they know just what to do about the Outsider, and not one of them will knuckle down to the others. Prestige. Eventually they'd work out a compromise between them. But if they get the idea that a civilian and a Belter could beat them to the Outsider, they'll get off their thumbs a lot faster. See?"

"No."

"Oh, make your call."

You're flying from New York, USA, to Piquetsburg, South Africa. Suddenly you become aware that New York is flying in one direction, Piquetsburg in another, and a hurricane wind is blowing your plane off course in still a third. All at speeds measured in miles per second . . .

Nightmare? Well, yes. But traveling in the solar system is different from traveling on Earth. Each individual part moves at its own pace, like raisins in a vat of taffy being stirred by a witch.

Mars moved in a nearly circular orbit. Asteroids moved nearby on orbits more elliptical, catching up to the red planet or falling behind, outrunning her or backing toward her. Some car-

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ried telescopes. Their operators would report to Ceres if they saw intelligent motion on the ochre surface.

The *LSD*4 accelerated toward Mars, carrying Nicholas Sohl and Lucas Garner. A modulated laser beam followed them from Earth's orbit.

The abandoned Outsider ship crossed over the sun and curved inward, following a shallow hyperbola which would take it through the plane of the planets.

The *Blue Ox* followed an accelerating higher-order curve. Eventually it would match the *Ox*'s velocity and position to the Outsider's.

Eventually it did.

VII

"I'm ready for a vacation," said Nick. For the past two days they had been skimming Earth's stored information on Mars.

"That dust is our biggest problem," said Luke.

"Why the Finagle did we have to watch all that? According to you, we're just running a bluff."

"According to me, we're running a search, unless you've got something better to do. We're faking a search, so why not do a real one? Sometimes the best symbol for a thing is the thing itself."

Nick turned off the laser transmitter. It was hot from two days of use in blasting a locator beam back at Earth. "I'm game, like I said, I'm ready for a vacation. Hunting strange things is what I do on my vacations. Did you say something about the dust?"

"I said it's our biggest problem. The Outsider didn't even have to dig a hole for itself. He could have sunk anywhere on Mars."

The dust of Mars was unique.

Its uniqueness was the result of vacuum cementing. Once vacuum cementing had been a bugaboo of the space industries. Small spaceprobe components which would slide easily over one another in normal air would weld solidly in a vacuum, just as soon as the gas absorbed by their surfaces had evaporated away. Vacuum cementing had fused parts in the first American satellites and in the first Russian interplanetary probes. And vacuum cementing was what kept the Moon from being fathoms deep in meteor dust. The dust particles would weld into rock, into natural cement, under the same molecular attraction that fuses Johanssen blocks and turns the mud of sea bottoms to sedimentary rock.

But there was no vacuum cementing on Mars. There was just enough gas to stop that, but not

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nearly enough to stop a meteor. Meteor dust covered most of the planet. Meteors would fuse it into craters, but it would not cement, though it was fine enough to behave like a viscous oil.

"He had some reason for landing on Mars," said Nick. "Maybe it's something he can't do under the dust. In that case he must have landed in a crater."

"And been spotted." Luke keyed a photograph from the autopilot memory. It was one of a group from the smuggler trap. It showed a dimly shining metal egg with the small end pointed. The egg moved big-end first, and it moved as if rocket-propelled. But there was no reaction drive, at least none that any instrument could detect.

"That thing's big enough to see from space," said Luke. "And easy to recognize, with that silver hull."

"Right. Shall we start with the Lacis Solis region?"

"Why there?"

"It's the deepest dust on the planet."

"He'd have been stupid to pick the deepest. He'd have picked his place at random."

"Then we alone don't have a chance of finding him. So let's assume he's stupid."

Luke nodded. "We'll need dustboats. The old base — "

"*Blue Ox* calling *LSD*4. *Blue Ox* calling *LSD*4."

There would be a directional signal in that message. Nick set the autopilot to aiming his own laser back at the source. "Take a few minutes," he said.

"I was saying that we'll have to land at the old base and pick up a boat. Can we take the deep-radar out of this heap?"

"Don't know. I'd have to examine the ship from outside."

"Let's hope we can. I don't know what else we can use for a finder."

"A metal detector. There must be one aboard."

There was. But again, Nick couldn't tell whether it could be removed. There hadn't been time to examine the flatland ship before takeoff.

"This is Nicholas Brewster Sohl aboard *LSD*4 calling any or all aboard the *Blue Ox*. What's new? Repeating. This is Nicholas — "

Nate flicked to transmit. "Nathan La Pan aboard *Blue Ox*. We have matched with the Outsider ship. The others are preparing to board. I will switch you to Einar Nilsson." He did.

And then he settled back to wait.

It was torment, having to wait here in the *Ox*'s control room while Tim and Einar moved in

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on the Outsider. Nate had protested mightily, but Einar's argument had no holes to crawl through.

"This Brennan," Einar had said. "We don't know what happened to him, but it would be prudent to assume the Outsider kidnapped him. And where is the Outsider?"

"Gone. And well you know it."

"And the other Outsiders? Do you know how many Outsiders there were? Suppose there are more of them aboard? Suppose they attack?"

Nate hadn't been given quite time to answer. "Why, you'll blast them with fusion flame. Because you'll be right here waiting if we need help."

And he was. But he hated it.

"Einar Nilsson speaking. We are outside the alien ship. The drive system is too hot to get near, but we will send you our films. I've hooked the com laser into a teevee peeper on my helmet. Tim, have you found anything?"

"Just this big porthole and a smooth hull. And cables trailing off in both directions. We'll have to burn our way in."

"Through the porthole," said Einar. "Otherwise we might burn through something explosive."

"He was right," said Nick. "That's a lifesystem. You can see a control through the glass."

"If it's glass. That's crazy engineering, Nick. Why not put the lifesystem last?"

"We'll wait and ask him."

"Maybe we can patent the idea and sell it to him. Do you suppose he's just stupid?"

"If he is, he's clever with his hands."

"This transparent stuff has a twenty thousand Kelvin melting point," said Einar. "But we're about through. The lifesystem must be about out of air; we're getting almost no fog through the cracks. Ah, we're through."

A three-foot transparent disc puffed away on the last of the air, with a breath of white mist playing around it. Tim caught it and sent it gliding toward the *Ox* for later recovery. Einar ducked headfirst into the hole and pulled himself through. His beer belly gave him a little trouble.

"I'm in a small control cabin," he said and swung from the waist to give the teevee peeper a full view. Tendrils of icy fog drifted toward the hole in the porthole. "Very small. The control bank is almost primitively complex, so complex that I'm inclined to say the Outsider had no autopilot. No man could handle all these controls and adjustments. I see no more than one couch

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and no aliens present but me.

"There's a bin full of sweet potatoes," he continued, "right beside the control couch. It's the only kitchen in this section. I think I'll move on." He turned for a last look at the porthole, saw Tim hovered outside, obeying orders. "Stay out there," he said. "If I need help I'll yell."

He moved to the door in the back of the control room, tried to open it. Pressure forced it shut. He used his cutter. The door cut easily, much more so than the porthole material. He waited while the room filled with thick fog, then pushed his way in.

"This room is bigger than the control room. Sorry about the view; we seem to have stumbled on a suburb of Los Angeles. The place seems to be a free-fall gymnasium." He swept his peeper around the room, then crossed to one of the machines and tried to work it. It looked like you were supposed to stand up inside it against the force of springs. Einar couldn't budge it.

He disconnected the peeper and aimed it at the machine, then tried again.

"Either I'm doing it wrong," he told his audience, "or the Outsider could pick his teeth with me. Let's see what else there is." He looked around. "That's funny," he said presently.

There was nothing else. Only the door to the control room.

Three men searching for two hours only confirmed Einar's find. The lifesystem consisted of:

One control room the size of a singleship control room.

One free-fall gymnasium, same size.

A bin of roots.

An enormous air tank. There were no safeties to stop the flow in case of puncture. The tank was empty. It must have been nearly empty when the ship reached the solar system.

Vastly complex air cleaning machinery, apparently designed to remove even the faintest, rarest trace of biochemical waste.

Equally complex equipment for conversion of fluid and solid waste.

It was incredible. The single Outsider had apparently spent his entire trip in two small rooms, eating just one kind of food, with no ship's library to keep him entertained and no autopilot to keep him pointed right and guard his fuel supply and steer him clear of meteors. He must have done it all himself. Yet the trip had taken years, at least. In view of the complexity of the cleaning and renewal plants, the huge air tank must have existed solely to replace air lost by osmosis through the walls!

"That's it," said Einar. "I'll

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call you back in an hour, when we've analyzed this root and done what we can with the porthole material. Leave your com laser pointed. Is there anything you especially want us to look for?"

"Search the ship again," Nick told them. "You may find a highly miniaturized autopilot with overrides. Could you have overlooked a bolthole of some kind? If there's more living space somewhere, an Outsider may be in it." He turned the volume down and faced Luke. "They won't find anything, of course. The Outsider's as big as we are, judging from the couch. Can you think of anything else?"

"I'd like to see them analyze the air. And I'm particularly interested in the root."

"They'll finish with the root by the time this beam reaches them," He turned up the volume. "After you finish with the root, we'd like to know what the air's made of. Then do whatever comes to mind. Don't come home yet. Stay with the ship. If an emergency comes up, remember you've got a fusion flame thrower. Sohl out."

Brennan shifted.

He hadn't moved in hours. He lay on his back in the root bin, his eyes closed, his body folded into near-foetal position around a grossly swollen belly, his fists clenched. But now he moved one arm, and Phssthpok came suddenly alert.

Brennan reached for a root, put it in his mouth, bit and swallowed. Bit and swallowed. Bit and swallowed, under Phssthpok's watchful eye. His own eyes stayed closed.

Brennan's hand released the last inch or so of root, and he turned over and stopped moving.

Phssthpok relaxed. Presently he dreamed.

The *Blue Ox* had circled the sun and was now on the other side of the system, headed for interstellar space, a good distance from *LSD*4. Between the two ships was a communications gap of twenty to thirty minutes. Nick and Garner waited, knowing that any information would be half an hour late.

They had asked all the questions, made guesses at the answers, mapped out their search pattern of Mars. Luke was bored. He missed the conveniences built into his travel chair. The ship's library was unsatisfactory. He thought Nick was bored too, but he was wrong. In space Nick was silent by habit.

The screen flashed on. The radio cleared its throat and spoke.

"Nick Sohl, this is Tim Truesdale aboard the *Blue Ox*." The

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voice held barely repressed panic; the youngish face confirmed it. Tim Truesdale caught on his own voice, then blurted, "We're in trouble. We were testing that alien root in the chem lab, and Einar tried to take a bite of it. The damn thing was like asbestos from vacuum exposure, but he swallowed a piece before we could stop him. I can't understand why he did it. It smelled awful!

"Einar's sick, very sick. He tried to kill me when I took the root away from him, and now he's gone into a coma. We've hooked him into the autodoc. The 'doc says Insufficient Data." They heard a ragged intake of breath. Suddenly Nick realized what was strange about Truesdale's face. It was a flatlander's face, wide and overmuscled. "We'd like permission to get him to a human doctor."

"Nick Sohl speaking. Pick a route and get on it. Then finish analyzing that root. I want to know what it smelled like, to Einar, to Nate, to you. What exactly did it remind you of? Sohl over." Nick turned the volume off. "What the blazes got into him?"

"Who?"

"All of them, but especially Einar. I was his boss for a year before he quit politics. Why would he try a suicidal trick like that?" He drummed on the arm of his chair, then began looking for Ceres with the laser.

In the half hour that passed before the *Blue Ox* called again, Nick got dossiers on all three of her crew.

Tim Truesdale was a flatlander, sure enough. He had joined the Belt when he was twenty. Eight years later he was still alive; the Belt hadn't killed him and probably wouldn't. Einar Nilsson and Nathan La Pan were both Belters: Einar a broad-shouldered, broad-bellied giant, nearly fifty, running to fat and baldness; Nathan an eighteen-year old, learning the ways of space at apprentice pay before being allowed to take off in his own singleship.

"That explains why they waited for orders," said Nick rather seriously.

"Does that need an explanation?"

"Most Belters would have turned back the moment Einar came down sick. But Truesdale's still a flatlander, still used to being told when to breathe, and La Pan probably didn't trust his own judgment enough to override him."

"I notice the others had fewer childhood diseases than Truesdale."

"We try to keep germs out of

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the Belt. Did you notice anything else?"

"Only his age. Nilsson was the oldest."

"I noticed that too. He was also the biggest. Do you — "

"*Blue Ox* calling Nick Sohl aboard *LSD4*. We're on our way home. The root seems almost normal. High in carbohydrates, including righthanded sugars. Ordinary looking proteins. No vitamins at all. We found two compounds Nate says are brand new. One resembles a hormone, testosterone, but it definitely isn't testosterone.

"The root doesn't smell like anything I can name, except possibly sour milk or sour cream. Nate says it smells like food burning, but he can't name the food.

"The Outsider ship's air was thin, with an adequate partial pressure of oxygen, no poisonous compounds, at least five percent helium. We spectroanalyzed the porthole material, and — " He listed a spectrum of elements. "The 'doc still reports Einar's illness as Insufficient Data, but now there's an emergency light. Whatever it is, it isn't good. Any further questions?"

"Not at the moment," said Nick and signed off. He sat drumming on the console with long, tapering fingers.

"So," said Luke.

"Where'd it come from?" Nick wondered aloud.

"A small world with no moon," said Luke. "Moons tend to skim away a planet's atmosphere. The Earth would be like Venus without her big oversized moon. The helium would be the first to go, wouldn't it?"

"Maybe. It would also be the first to leave a small planet. And think about the Outsider's strength. It was no small planet he came from."

"What then?"

"From somewhere in a gas cloud, with lots of helium. The galactic core is in the direction he came from. There's lots of gas clouds and dust clouds in that direction."

"But they're all an unholy distance away. Will you stop that drumming?"

"It helps me think. Like your smoking."

"Drum then."

"There's no limit to how far he could have come. The faster a ramscoop ship goes, the more fuel it would pick up. You saw the intake on the drive section?"

"There has to be a limit at which the exhaust velocity equals the velocity at which the gas hits the ramscoop field."

"True. But it must be way the Finale up there. That air tank was *huge*. The Outsider is a long way from home."

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VIII

Phssthpok dreamed.

. . . He sat on the floor of the Library with a piece of root in his jaws and an ancient book balanced on one cantaloupe knee and a map spread before him on the floor. It was a map of the galaxy, but it was graded for time. The core section showed as it had been a million years ago, but the outer arms were only five hundred thousand years old. The Library staff had spent most of a year preparing it for him.

Assume they went a distance X, he told himself. *Their average velocity must have been eleven thousand seven hundred thirty glocka per klakwhoo, considering dust friction and the galaxy's gravitational and electromagnetic effects. Their laser returned at light-speed; figure for space curvature. Then X = thirty thousand one hundred and ten light-years.*

Phssthpok set his compass and drew an arc, using the Pak sun as a center. Margin of error: point zero zero one, thirty light-years. *They're on that arc!*

Now, assume they went straight toward the nearest edge of the core. Phssthpok drew a radial line. *Margin of error greater here. Original error, course alterations* . . . And the straight line would have been twisted into a spiral curve during five hundred thousand years, while the galaxy twisted like curdled milk. *But they must have stayed flat in the galactic plane. And they're near this point. I've found them* . . .

. . . Phssthpok's minions pouring like army ants through the Library. Every protector in reach had joined his quest. *It's in the Astronautics Section, Pphwee. You've got to find it. We need those ramscoop diagrams. Ttuss, I need to know what happens when a protector gets old, and when it happens. It must be in the Medical Section. Hrathk, we have to learn what could stop a tree-of-life from growing in the galactic arms. Put your whole crew on this. Use the Valley of Pitchok for the experiments and remember the environment was habitable. You of the Physics and Engineering Sections, I need a fusion drive. Design it!* Every childless protector on the planet was looking for a purpose in living, a Cause. And Phssthpok gave it to them . . .

. . . The ship, finally completed, standing in three parts on the sand not far from the Library. Phssthpok's army assembling. *We need monopoles, we need tree-of-life roots and seeds, we need solid-fuel rockets for the launching. The scoop won't work*

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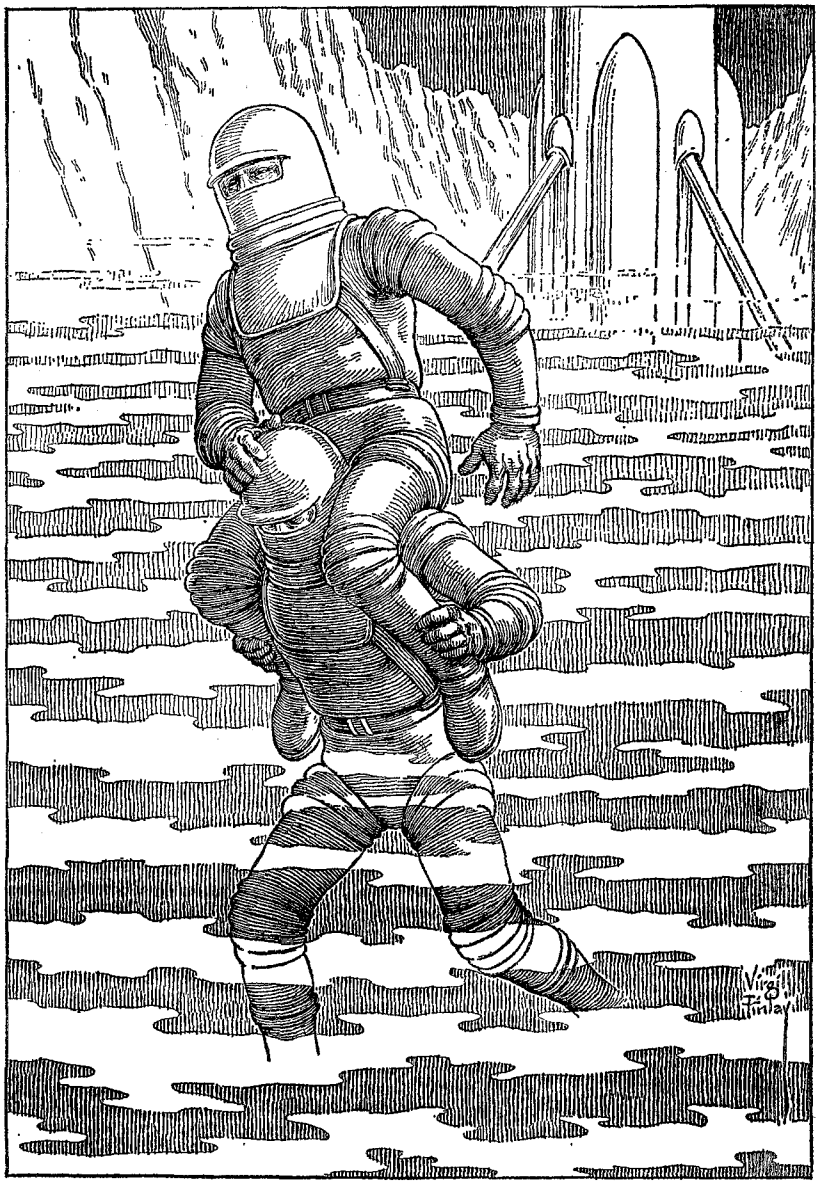

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below a certain speed. Meteor Bay has everything we need. We can take them! For the first time in fifty thousand years, the childless protectors of Pak assembled for war . . .

Phssthpok dreamed.

Days ago he had stopped eating. He told himself it was too early, but his belly didn't believe it. He would live just long enough. Meanwhile, he dreamed.

"How dangerous are these approaches?"

"Get that brave little quiver out of your voice," said Nick. It was pure slander; Luke was nothing but interested. "I've made a couple of hundred of these in my life. For sheer thrills I've never found anything to beat letting you drive me to the spaceport."

"You *said* you were in a hurry."

"So I did. Luke, I'd like to request an admiring silence for the next few minutes."

"Aha! Ah HA!"

The red planet reached for them. unfolding like a wargod's hand. Nick's bantering mood drained away, and his face took on a set, stony look. He hadn't been quite candid with Luke. He had made several hundred powered approaches in his life; true. But those had been asteroid approaches, with gravity negligible or nearly so. His first landing approach to a planet had been made a week ago.

Diemos went by in the direction technically known as "ship's upward." Nick inched a lever toward him. Mars was flattening out and simultaneously sliding away as they moved north.

"The base should be there," said Luke. "At the north edge of that arc. Ah, that must be it, that little crater."

"Use the scope."

"Mmmmm . . . Dammit. Ah. There it is. Still inflated, too. See it, Nick?"

"Yah."

The autodoc was built into the back wall, set over one of the three disaster couches. Einar was in that couch. His arm had been inserted into a slot in the wall.

Tim turned to examine the dial faces on the autodoc. Usually a panel covered those dials; a spaceship has enough gadgets to watch without added distractions. Tim had been looking at those dials every five minutes, for hours. But this time they all showed red.

"He's dead," said Tim. He heard the surprise in his voice and wondered at it.

Nate squirmed out of the control couch and bent over Einar. "And you just noticed! He must have been dead for an hour!"

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"No, I swear . . ." Tim gulped against the rising anaesthesia in his veins. His body was water. He was going to faint.

"Look at his face and tell me that!"

Tim climbed onto watery legs. He looked down at the ravaged face for a moment. Einar, dead, looked a hundred years old. In sorrow and guilt and repugnance, Tim reached to touch the dead cheek.

"He's still warm."

"Warm?" Nate touched the corpse. "He's on fire. Fever. Must have been alive seconds ago. Sorry, buddy, I jumped at conclusions. But doesn't it look like he's been dead a week? Hey! Are you all right?"

The dust rose in churning clouds to meet their drive flame. Nick swore viciously and increased the thrust. By now Luke had caught on to Nick's vagaries in blasphemy. When he swore by Finagle it was for emphasis or humor. When he blasphemed in Christian fashion, he meant it.

The *LSD4* slowed and hovered. She was above the dust, and then in the dust, and gradually the ochre clouds thinned and backed away. A ring-shaped sandstorm receded toward three hundred and sixty degrees of horizon; and the bedrock lay exposed for the first time in millenia. It was lumpy and brown and worn. In the light of the drive the rounded rock blazed white, with sharp black shadows. Where the drive flame touched it began to melt.

Nick said, "I'll have to land in the crater. That dust will flow back in as soon as I turn off the motor." He angled the ship left and pushed a lever forward. The bottom dropped out, and they fell.

They fell all the way and touched with hardly a bounce.

"Beautiful," said Luke.

"I do that all the time. Let's get into our suits."

"You'll have to carry me piggyback until we find a boat."

Nick opened both airlock doors, pulled Luke outside, settled him firmly on his shoulders and climbed down the ladder. He had landed near the ring wall, which rose above them in worn, rounded, volcanic-looking stone. Dust dripped back from the rim, running like molasses down the shallow slope to collect in a pool around the ship's shock legs. The crater was half a mile across. In the approximate center was the dome, surrounded by a shallow lapping sea of dust.

"Let's go up the wall," said Nick. "The boats will be outside."

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"No. There's an opening somewhere in the ring wall. Remember? They moored the boats just outside the dome."

"Then where are they?"

"Must be on the other side of the dome. We couldn't see too well coming down."

Nick looked around him, frowning. There seemed no way to reach the dome without crossing the dust, which might not be as shallow as it looked. The crater was ancient; it looked just younger than the planet itself. But it was riddled with younger cracks. Some of the edges were almost sharp; the air and dust were too thin to erode things quickly. There would be bad footing.

Perhaps the men who built the dome had never needed to reach the ring wall, except by boat.

He stared around the base of the ring wall, walking slowly and carefully. Luke was light on his shoulders, and his own body was light; but together they were top-heavy, and some of the cracks were concealed by fluid.

A small, intense sun hung above the crater rim, in a sky the color of veinous blood.

On the far side of the dome a narrow strip of laser-fused dust led from the dome to the ring wall. The boats were there, moored along the path. Dust had settled over them, leaving only flat, wide shapes the color of everything else. For twelve years they had waited for explorers who had lost interest and gone home.

It was like seeing ghosts. An Egyptian Pharaoh might find such ghosts waiting for him in the afterworld: rank on rank of dumb, faithful retainers, gone before him, and waiting, waiting.

"From here they look good," said Luke. "We're in luck, Sinbad."

'Don't count your money yet."

It was a fifteen-minute walk from the ship to the ring-wall end of the path. Nick sighed as he started across the dust pond toward the dome. "Has it occurred to you that Lacis Solis is more than two thousand miles from here? The UN could make their own boats and still beat us."

"They won't move that fast. Come on."

"The path's slippery. Dust all over it."

The boats, four of them, were lined along the west side. Each had four seats and a pair of fans at the stern, below the dust line, with cages for protection from submerged rocks. The boats were so flat that any ocean ripple would have sunk them; but in the heavy dust they rode barely submerged.

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Nick dropped his burden not too gently into one of the seats. "See if she'll start, Luke. I'm going to the dome for fuel."

"It'll be hydrazine, with compressed Martian air as oxidizer."

"I'll just look for a fuel tank, if it's okay with you."

Luke was able to start the compressor, but the motor wouldn't fire. *Probably drained the tanks,* he decided and turned everything off. He found a bubble dome collapsed in the back. After making sure it was meant to be worked manually, he wrestled it into place and sealed it down, holding himself in place with a seat belt to get leverage. His long arms and wide hands had never lost an arm wrestling match. The edges of the bubble probably leaked, he decided, but not seriously. He found the inspection hatch that concealed an air converter for changing the nitric acid outside into breathable nitrogen and oxygen.

Nick returned with a green tank balanced on one shoulder. He fueled the boat through an injector nozzle. Luke tried the starter again. It worked. The boat tried to take off without Nick. Luke found the neutral setting, then reverse. Nick waited while he backed up.

"How do I get through the bubble?"

"I guess you don't." Luke collapsed the bubble, unsealed one side for Nick, then sealed it after him. The bubble began to fill, slowly. "Best keep our suits on," said Luke. "It may be hours before we can breathe in here."

"You can collapse it then. We've got to get provisions from the ship."

It was two hours before they raised the bubble and started for the opening in the ring wall.

The cliffs that framed the opening were sharp and sheer, clearly dynamite-blasted, as artificial as the glassy path between dome and ring wall. Naked black rock glared down at them as they passed between. Nick was settled comfortably in one of the passenger chairs, his feet up on another, his eyes resting casually on the screen of the deep-radar mounted on the side of the boat.

"Seems deep enough," he said.

"Then I'll open her up," said Luke. The fans spun; the boat's stern dipped far down, then righted. In seconds they were skimming across the dust at forty knots, leaving as a wake only two straight, shallow, regular swells.

The deep-radar image registered as a contour map. It showed a smooth bottom, regular swells and dips from which millions of years had eliminated all

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sharp lines and points. There was little volcanic activity on Mars.

The desert was as flat as a mirror. Rounded dun-colored rocks poked through its surface, incongruous, Daliesque. Craters sat on the dust like badly made clay ash trays. Some were a few inches across. Others beyond the horizon would measure miles, or tens of miles. The horizon was straight and close and razor sharp, glowing yellow below and artery red above. Nick turned his head to watch the crater recede.

His eyes widened, then squinted. Something?

'Damn't. Hold it!" he shouted. "Turn around! Turn hard left!"

"Back toward the crater?"

"Yes!"

Luke cut the power in one motor. The boat turned its prow to the left but continued to skid sideways across the dust. Then the right fan bit in, and the boat curved around.

"I see it," said Luke.

It was little more than a dot at that distance, but it showed clearly against the calm monochromatic sea around it. And it moved. It jerked, it remained quiescent, it jerked again, rolling sideways. It was several hundred yards from the crater wall.

As they approached, it grew clearer. It was cylindrical, the shape of a short caterpillar, and translucent; and soft, for they could see it bend as it moved. It was trying to reach the opening in the ring wall.

Luke throttled down. The dustboat slowed and settled deeper. As they pulled alongside Luke was startled to see that Nick had armed himself with a signal gun, a rocket pistol with an exploding warhead of ultrafine dust. Such a pistol could call for help, but at close range it could also kill.

"It's him," said Nick. He leaned over the side, gun at the ready.

The caterpillar was a transparent, inflated sack. Inside was something that rolled over and over, slowly and painfully, trying to get closer to the side of the boat. It was as clearly alien as anything created in the days of flat television.

It was humanoid, as much so as a stick-figure drawing is humanoid. But it was all knobs. Elbows, knees, shoulders, cheekbones, they stuck out like marbles or grapefruits or bowling balls. The head was a small watermelon swelling and rising like hydrocephalus.

It stopped trying to roll when it bumped against the boat in its pressurized prison.

"He looks helpless enough," Nick said dubiously.

"Well, here goes our air again."

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Luke deflated the bubble. The two men reached over the side, picked up the pressurized sack and dropped it in the bottom of the boat. The alien's expression did not change and probably could not. But it did a strange thing. With thumb and forefinger of a strangely human, strangly inhuman hand, it made a circle.

Nick said, "He must have learned that from Brennan."

"Look at the joints, Nick. It looks like you could name every one of them."

"His arms are too long for human. And his back slopes more."

"Yah. Well, we can't take it back to the ship, and we can't talk to it the way it is now. We'll have to wait out here while the bubble inflates."

"We seem to spend most of our time waiting," said Luke.

Nick nodded. His fingers drummed against the back of a chair. For half an hour the boat's small converter had been straining to fill the bubble, using and changing the thin, poisonous mixture outside.

But the alien hadn't moved at all. Luke had been watching. The alien lay in its inflated bag in the bottom of the boat, and it waited. Its human eyes watched them from inside pits of tough, leathery wrinkles. No part of it moved except its eyes. Just so, with just such patience, might a dead man wait for Judgment Day.

"At least we have it at a disadvantage," said Nick. "It won't be kidnapping us."

"I think he must be insane."

"Insane? Its motives may be a little strange—"

"Look at the evidence. He comes plowing into the system in a ship just adequate to get him here. His air tank was on its last gasp. There was no evidence of fail-safe devices anywhere aboard ship. He made no attempt to contact anyone, as far as we can tell. He kills or kidnaps Brennan. He then proceeds to abandon his interstellar drive and run for Mars, presumably to hide. Now he's abandoned his re-entry vehicle and whatever's left of Brennan too; he's rolled halfway around Mars in a sandwich bag to reach the first place any exploring ship would land! He's a nut. Too many years between stars in too small a place have stirred his brains with an eggbeater."

"You keep saying *him*. It's an *it*. Think of it as an *it*, and you'll be ready for it to act odd."

"That's a cop-out. The universe is rational. In order to survive, this thing has to be rational

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too, wherever he, she or it is from."

"Another couple of minutes and we can—"

The alien moved. Its hand slashed with blurring speed down the length of the sack. Instantly Nick raised the signal gun. Instantly . . . but the alien reached through a long slit in the sack and took the gun out of Nick's hand before he could fire. There was no sign of haste. It tossed the gun into the back of the boat and sat up.

It spoke. Its voice was full of clickings and rustlings and poppings. The flat, hard beak must have been a handicap. But its speech could be understood.

It said, "Take me to your leader."

Nick recovered first. He straightened his shoulders, cleared his throat and said, "That will involve a trip of several days. Meanwhile, may I welcome you to the dominion of humanity?"

"You may not," said the monster. "I hate to ruin your whole day. My name's Jack Brennan, and I'm a Belter. Aren't you Nick Sohl?"

IX

The awful silence rocked to the sound of Luke's laughter. "You think of it as an it instead of a him, and you'll be ready for s-strange-h-hahaha . . ."

Nick felt panic close around his throat. "You. You're Brennan?"

"Yah. And you're Nick Sohl. I saw you once in Confinement. But I don't recognize your friend."

"Lucas Garner." Luke had himself under control. "Your photographs don't do you justice, Brennan."

"I did something stupid," said the Brennan-monster. Its voice was no more human, its appearance was no less intimidating, than before it had announced itself as Brennan. "I went to meet the Outsider. You were trying to do the same weren't you?"

"Yes." There was a sardonic amusement in Luke's eyes and in Luke's voice. He may or may not have believed the Brennan-monster, but either way he was enjoying the situation. "Was there really an Outsider, Brennan?"

"Unless you want to quibble about definitions, yes."

Sohl broke in. "For God's sake, Brennan! What *happened* to you?"

"That's a long story," said the Brennan-monster. "And I'm going to tell it all, right here. To make it easier for you to understand, I'd like to tell it my own way, so please maintain a re-

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spectful silence, remembering that if I hadn't gotten in the way you'd look just like me." He looked hard at the two men. "I'm wrong. You wouldn't. You're both too old. Well, bear with me. I'm going to tell you about a race of bipeds that lives near the edge of the spherical globe of close-packed suns at the core of the galaxy . . .

"The most important thing about them is that they live in three stages of maturity. There is childhood, which is self-explanitory. There is the breeder stage, a biped just short of intelligence, whose purpose is to create more children. And there is the protector.

"At the age of forty-two, Earth time, the breeder stage gets the urge to eat the root of a certain bush. Up to then he stayed away from it, because its smell was repugnant to him. Suddenly it smells delicious. This bush grows all over the planet; there's no real chance that the root won't be available to any breeder who lives long enough to want it.

"The root initiates certain changes, both physical and emotional. But before I go into them, I'll let you in on the big secret. The race I speak of calls itself —" The Brennan-monster clicked its horny beak sharply together. "We call it Peking Man."

"What?" Nick seemed forced into the position of straight man, and he didn't like it. But Luke sat hugging his useless legs to his chest, grinning with wicked enjoyment.

"Peking Man. There was an expedition that landed on Earth some five hundred thousand years ago. The bush they needed wouldn't grow, so there haven't been any protector stage Paks on Earth. I'll get to that.

"When a breeder eats the root, these changes take place. His or her gonads and obvious sexual characteristics disappear. His skull softens, and his brain begins to grow until it is comfortably larger and more complex than yours, gentlemen. The skull then hardens and develops a bony crest. The teeth fall out, whatever teeth are left; the gums and lower lips grow together and form a hard, flat beak. All hair disappears. Some joints swell enormously, to supply much greater leverage to the muscles. The skin hardens and wrinkles to form a kind of armor. Fingernails become claws, retractile, so that a protector's fingertips are actually more sensitive than before, and better toolmakers. A simple heart forms where the two veins from the legs, whatever the hell they're called, join to approach the heart. Notice that my armor skin is thicker there? Well,

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there are less dramatic changes, but they all contribute to make the protector a powerful, intelligent fighting machine.

"The emotional changes are drastic. A protector who has bred true feels no urge except the urge to protect those of his blood line. He recognizes them by smell. His increased intelligence does him no good here, because his hormones rule his motives. Does it occur to you that every change I've described is a kind of exaggeration of what happens to men and women when they get old?"

"Yes, but — "

"The extra heart," Luke broke in. "What about that?"

"Like the expanded brain, it doesn't form without tree-of-life. After fifty, without modern medical care, a normal human heart becomes inadequate. Eventually it stops."

"Ah."

"About that colony. There's no need to dwell on it. A big ship arrived here, and four Landing craft went down with some thirty protectors and a lot of breeders. A year later the protectors realized they'd picked the wrong planet. The tree they needed never came up. They sent a message for help, by laser, and then they died. Starvation is a normal death for a protector, but it's usually voluntary. These starved against their will." The Brennan-monster paused. There was no sign of emotion in voice or masklike face.

"They died. The breeders were breeding without check. What happened is largely speculation on my part, but I'm pretty sure I'm right. The landing craft was fission powered. The protectors were dead, but the breeders were used to their helping out, so they hung around the ships."

"And?"

"And the piles got hot without the protectors to keep them balanced. Maybe they exploded. The radiation caused all kinds of strange mutations. Everything from lemurs to apes and chimpanzees to ancient and modern man."

"I don't believe it," said Nick.

"You will. You should now. There's enough evidence of it, particularly in religions and folk tales. What percentage of humanity genuinely expects to live forever? Why do so many religions include a race of immortal beings who are constantly battling one another? What's the justification for ancestor worship? You know what happens to a man without modern geriatrics; he gets stupid as he gets old. Yet people tend to respect him, to listen to him. Where do guardian angels come from?"

"Race memory?"

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"Maybe. Or half a million years of tradition, if you'll believe a tradition could last that long. It could, if every man, woman and child on Earth began by believing it."

"South Africa," said Luke. He believed the Brennan-monster. The Outsider's actions had been so irrational that he had been forced to expect an irrational explanation. "They must have landed in South Africa. All the primates are there, except Man."

"Right. You see, the breeders had lost their ability to become protectors. They had to develop other shticks, to protect themselves. There was radiation around to help them change, and the protectors had made the environment temporarily safe for them, so the population could expand. Some got strength, some got agility, some got intelligence."

"I seem to remember," said Luke, "that the aging process in man can be compared to the program running out in a space probe. Once the probe has done its work it doesn't matter what happens to it. Similarly, once we pass the age at which we can have children—"

"You're moving on inertia only, following your course with no corrective mechanisms." The Brennan-monster nodded. "Of course the tree-of-life root supplies the program for the third stage. Good comparison."

Nick said, "What about the Outsider?"

"He found old records, including the call for help. He was the first protector in half a million years to realize that there was a way to find Earth, or at least to narrow the search. And he had no children, so he had to find a cause quick, before the urge to eat left him. That's what happens to a protector when his blood line is dead. More lack of programming. Incidentally you might note the heavy protection against mutation in the Pak species. A mutation doesn't smell right. That could be important in the galactic core, where radiation must be heavy."

"So he came barreling out here with a hold full of seeds?"

"And bags of thalium oxide. Thalium was what was lacking in Earth's soil, and the oxide was easiest to carry. The construction of his ship bothered me until I understood it, but you can see why he trailed his cargo section behind the lifesystem. Radiation doesn't matter to him, in small amounts. He can't have children."

"And where is he now?"

"I had to kill him."

"What?" Garner was shocked at last. "Did he attack you?"

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"No."

"Then why?"

The Brennan-monster seemed to hesitate. It said, "Garner, Sohl, listen to me. Fifteen hundred miles from here, some fifty feet under the sand, is part of an alien spacecraft filled with roots and seeds and bags of thalium oxide. The roots I can grow from those seeds can make a man nearly immortal. What do you think will happen next?"

The two men looked at each other. Luke seemed about to speak, closed his mouth.

"That's a tough one, right? So what did the Outsider expect? Why did he bring all those roots and seeds?"

X

Phssthpok dreamed.

He knew to within a day just how long it would take for Brennan to wake up. He could have been wrong, of course. But if he were, then Brennan's kind had mutated too far from the Pak form and would not be worth protecting.

Knowing how long he had, Phssthpok could time his dreaming. Dreaming was a fine art to a protector. He had about ten days. For a week he dreamed about the past, up until the day he left the Pak planet. Then he moved on to the future.

Phssthpok dreamed . . .

It would begin when his captive woke. From the looks of him, the captive's brain would be larger than Phssthpok's; there was that frontal bulge, ruining the slope of the face. He would learn fast. Phssthpok would teach him how to be a protector and what to do with the roots and seeds of tree-of-life.

Probably the native would take the secret for his own, using tree-of-life to make protectors of his own descendants. That was all right. If he had sense enough to spread his family around, avoiding incest, his bloodline would reach out to include most of this system's Pak race.

Probably he would kill Phssthpok to keep the secret. That too was all right.

There was a nightmare tinge to Phssthpok's dreaming. For the captive didn't look right. His fingernails were developing wrong. His head was certainly not the right shape. His beak was as flat as his face had been. His back wasn't arched, his legs were wrong, his arms were too short. His kind had had too much time to mutate.

But he'd reacted correctly to the roots.

The future was uncertain . . . except for Phssthpok. Let the captive learn what he needed to know, if he could; let him carry

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on the work, if he could. There would come a day when Earth was a second Pak world. Phssthpok had done his best. He would teach and die.

Brennan stirred. He unfolded his curled body, stretched wide and opened his eyes. For a few moments he stared at Phssthpok, stared as if he were reading the protector's mind. Then he began to speak.

In two days he had learned the language. On the third day, as Phssthpok was demonstrating how to unfreeze the seeds without damage, Brennan slammed his head against the edge of the freezer. It stunned the protector just long enough to let Brennan turn him around and break his neck against the edge.

"I wonder if I can make you understand," said the Brennan-monster. He gazed at the two old men, one twice the age of the other but both old, and wondered that they should be his judges.

"I wonder if you can understand how fast it was." He kept his speech dead slow, slow enough for them (hopefully) to understand it. "He had the box open and was giving me instructions in that oddly speedy language of his, giving orders just as if I were a voice-box computer. I was about to ask, 'Don't I get any choices at all?'

"I was too intelligent. I was getting answers before I could finish formulating a question. And always I saw the best answer, and always it was the only choice. My free will was gone. And is. I wondered if the Outsider had free will.

"In that same instant I attacked him with intent to kill. Every step in the argument was in place, and there was no choice at all."

"Lucky you could act so fast. I gather he was dangerous?"

"Not to me, not yet. I was his shining hope. He couldn't have defended himself for fear of bruising me. He was older than me and knew how to fight; he could have killed me if he'd wanted to. But he couldn't want to.

"It took him thirty thousand years of real time to bring us those roots. He expected me to finish the job. I think he died believing he'd succeeded. He half-expected me to kill him, you see."

Sohl said, "And?"

The Brennan-monster shrugged cantaloupe shoulders. "He was wrong, of course. I killed him because he would have tried to wipe out the human race when he learned the whole truth." He reached into the bag that had brought him across fifteen hundred miles of fluid dust. He pull-

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ed out a jury-rigged something-or-other that hummed softly — his air plant, made from parts of Phssthpok's control board — and dropped it in the boat. Next he pulled out half of a yellow root like a raw sweet potato. He held it under Garner's nose. "Smell this."

Luke sniffed. "Kind of pleasant. Like a liqueur."

"Sohl?"

"Nice."

"If you knew it would turn you into something like me, would you take a bite? Garner?"

"This instant. I'd like to live forever, and I'm afraid of going senile."

"Sohl?"

"No. I'm not ready to give up sex yet."

"How old are you, Sohl?"

"Seventy-four. Birthday two months from now."

"You're already too old. You were too old at fifty; it would have killed you. Would you have volunteered at forty-five?"

Sohl laughed. "Certainly not."

"Well, that's half the answer. From Phssthpok's point of view, we're a failure. The other half is that I don't intend to turn tree-of-life loose on Earth or anywhere else."

"I should hope not," said Garner. "But let's hear *your* reasons."

"Did you see the Outsider ship?"

"We saw films."

"Odd, wasn't it? A weird combination of primitive and complex. There's a reason for that. The Pak planet has never been free of war at any time in its history. Naturally not, with every protector single-mindedly acting to expand and protect his blood line at the expense of all the others. Knowledge keeps getting lost, and the race can't co-operate for a single minute beyond the point where one protector sees an advantage in betraying the others. They can't make any kind of permanent progress because of that continual state of war.

"Can you imagine a thousand protectors on Earth deciding their grandchildren need more room? All they'd have to do would be to steal a few fusion plants."

He didn't have to expand that point. Fusion plants were as common on Earth as electrical generators had been a century earlier. There were tens of thousands of spacecraft; there were seawater distilleries and power plants and public crematoriums. And each could become an exploding bomb at a flick of the switch that controlled its fusion shield.

"Besides which, we don't need

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tree-of-life, not really. Garner, when were you born? Nineteen forty or thereabouts?"

"Thirty-nine."

"And look how old you are now. The science of geriatrics is moving so fast that my kids have a good chance of living for thousands of years. We'll get our immortality without tree-of-life, without sacrificing anything at all."

"Now look at it from the Outsider's viewpoint," the Brennan-monster went on. "We've settled the solar system and are on the verge of moving out to the stars. We will and must refuse to use tree-of-life, and even when it's forced on us the resulting mutated protectors are atypical. The Outsider was used to thinking in terms of the long view. He'd have realized that someday we'll reach the core. The Pak will attack us the moment they see us, and we'll fight back." He shrugged. "And win, of course. The Pak won't unite effectively, and we'll have a much better technology."

"We will?"

"I told you, they can't keep their technology. Whatever can't be used immediately gets lost unless someone files it in the Library. Military knowledge never gets filed; the families keep it a deep, dark secret. And the only ones to use the Library are the childless protectors. There aren't many of them, and they aren't highly motivated."

"He'd have tried to wipe us out first," said Luke.

"Right. You might remember that we would have been infinitely worse to him than a hostile alien species. We're mutants, corruptions of the Pak form itself."

"But he couldn't do it. He was all alone."

"I've thought of half-a-dozen things he could have done. None of them sure things, but I couldn't risk it. Remember that the Outsider was a fanatic and more intelligent than most human geniuses. They all are.

"If only they'd had the ability to play . . ."

The sun had almost touched the horizon. Luke shivered and started the motors. He didn't want to have to navigate the opening in the ring wall in darkness.

Presently Nick said, "What about the seeds? Do we just leave them where they are?"

"Not at all, Sohl, when you have finally grasped the extent of my magnificient intelligence, you'll see what those seeds represent. They're a fail-safe for the human race. If we ever really need a leader, we can make one. We'll just pick a forty-two-

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year-old volunteer and turn him or her loose in the tree-of-life patch, making sure that he or she has no children."

"Children. You've got children, Brennan."

"Yes," said the Brennan-monster. "But fear not. I don't intend to hover over them the rest of their lives. They'll have a much better chance for happiness without that."

"The hormone changes didn't work?"

"I think they did. At least to some extent. What the Outsider never realized was that most of the protector's urge to die after his bloodline is dead is sociological. Some is hormones, but more is training. I don't have that training, that conviction that a breeder can't be happy or safe without his ancestors constantly telling him what to do. I don't intend to let them know I'm alive. That would hurt them."

"We'll give it out that the Outsider killed you."

"Good." The Brennan-monster lay flat on his back in the bottom of the boat as it slowed for the opening in the ring wall. Nothing moved but his eyes. The Brennan-monster had the ability to relax. Somewhere in the future there would be regular periods of furious exercise . . .

"What of you, Brennan?"

"I can't protect my kids because of the Principle of Uncertainty. I can't watch them without affecting them. But I can protect the human race. Someday it may be necessary. Meanwhile, I'll be a gardener. Pick me an asteroid, and I'll raise tree-of-life."

From the front of the boat, Luke said, "I just thought of something. You know the story of Genesis?"

"Yes."

Luke pulled out a cigarette. "You remember that Adam and Eve ate from the tree of knowledge. According to Genesis, the reason they were thrown out was that they might have eaten from the tree of life, to live forever. That would have made them equivalent to angels. Now you tell us they were the same tree." He used his lighter. "Wha — "

In one fluid motion the Brennan-monster was beside him. He took the cigarette from Luke's mouth stubbed it out against the side of the boat. Luke glared.

"Sorry," said the Brennan-monster. "The hormones worked after all. I'm a protector."

It was as fair a warning as the two ex-breeders would get. The Brennan-monster's motives would always be as clear as empty space. —LARRY NIVEN

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Alien's Bequest

by CHARLES V. DeVET

He came from space to bring us a gift we didn't want to take!

When the alien spaceship crash-landed its lone occupant was killed — yet it did not die. And one day later it disappeared.

Abruptly St. Paul, Minnesota — site of the landing — became a closed city. Few went in, and none came out.

My newspaper pulled strings for a week, and I found myself on a plane with Joseph F. Kasper, Presidential trouble shooter.

We flew over the city, low enough to see a cordon of national guardsmen and a tight line of boats blocking the port area on the Mississippi. A corpsman met us in the compound at Navy Island.

"I'm to take you directly to the staff room, sirs," the corpsman informed us. "Mr. Rauen is waiting." That would be Edward Rauen, State Department man in charge of the project.

Rauen greeted us at the door of the staff room. We introduced ourselves, and the big man shook our hands. "Glad to have you with us," he said.

"I understand three men died here yesterday," Kasper got directly down to business.

"Yes," Rauen answered. "With broken necks. A biologist here at the center, and two national guardsmen in the Pigseye area."

"By the alien?"

"We assume so."

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"Why those particular men?"

"We figure the biologist came on something. Our visitor killed him and killed the guardsmen in trying to escape."

"Did he escape?"

"We're quite certain he didn't," Rauen answered. "He was stopped at the first guard line."

He introduced us to the other two people in the room, a Miss Carole Schoppert, pathologist on the project, and a Mr. Leo Scanlon, technician.

"What do you have on the creature so far?" Kasper asked as we seated ourselves.

"Very little, except that it can assume different shapes. We suspect that presently it is masquerading as a human. That would be its best disguise. But I think we'd better start at the beginning. I'll show you the pictures we have." Rauen turned to the technician. "Will you handle the projector, Mr. Scanlon?"

The opening scene on the screen appeared as a ball of light, coalesced into a spaceship, and came at the camera like a blue-black bullet fired from a gun. Its speed slackened abruptly. It bucked a half dozen times, rapidly, and began a slow spinning fall.

"That's where our visitor died, apparently," Rauen said. "Except . . . Will you proceed, Mr. Scanlon?"

In the next scene the spaceship had been opened, and the alien lay on the grass a few yards away. Scanlon brought the camera into closeup focus.

The outworlder was lying on his side, with his legs coiled behind him, without knee-break, resembling half-coiled springs. He was unclothed and squat, with a tough-textured, satin-black skin. His one eye was protuberant, with a light center and no visible white at the outsides. It was a strong face, but laced with the fine deep lines of an old man.

The side of the alien's head nearest us had been battered and crushed.

"Observe this now," Rauen cautioned. "Taken one hour later."

The outline of the alien had become blurred, with the facial features seeming about to run one into another.

"Another hour," Rauen said. The alien body had melted into a soft block of blackgel.

Kasper all this while had been sitting alertly passive. Now he asked, "Is it possible for a body to decompose that fast?"

"No," Rauen answered. "Closer study showed the thing was still alive. It had lost its shape, but there was no putrefacation or actual tissue deterioration. It retained a consistent body temperature and fluid circulation. We

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might think of it as a protoplasmic mass, but it definitely is not dead."

"How did it escape?" Kasper asked. "Can something like that move?"

"Small portions of it, let's say, writhed constantly," Rauen said. "But whether or not it was locomotory we never did learn.

"This next picture will show how it escaped," Rauen continued. "I had Mr. Scanlon set his camera on automatic so we'd miss nothing during the night. This is the result."

Our attention moved back to the screen, where a brown mongrel dog lay on the grass on the spot where the alien had been before. The dog was not moving, but its side rose heavily and quite rapidly, as though it had just run a long distance. It was covered with a thick film of dull matter that resembled mud. Other matter lay all about it in a damp pool.

As he watched the dog rose awkwardly. With its legs spread wide it shook most of the black substance from its body, and ambled out of the picture.

"That's it," Rauen said. "That's all we have on the thing."

"Did you search for the dog?" Kasper asked.

"Of course. We never did find it." The question had obviously irked Rauen. Something about the personalities of these two men clashed.

"How much of that protoplasmic matter remained after the dog left?" Kasper asked next.

"In volume, approximately the same as before," Carole Schoppert spoke now. "Except that it was dead matter then, not protoplasmic. We found another pool of it on the other side of the ship. We suspect it changed shapes again there, from the dog to a human."

Kasper turned his attention to the girl. She was a beautiful woman, I had noted earlier, with blonde hair set in a high fashioned updo. Kasper's glance showed appreciation of her slim-lined, long-legged body.

"Where did the excess matter come from?" Kasper asked.

Carole hesitated. "That is one of the mysteries we haven't yet solved."

Slowly Kasper turned back to Rauen. "I'd like the names of all who had near contact with the alien before it disappeared," he said. "Can you get them for me?"

"We already have such a list," Rauen answered. "And we have investigated everyone on it, thoroughly."

Kasper went through a reflective moment. "About all I have to suggest is that we send what we have to Washington. I'd like

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to see what the big Honeywell computer makes of it."

The meeting ended shortly after.

That night two more men died — Both lab men, again with broken necks. The situation was fast becoming critical.

The report from the computer arrived early the next morning. Rauen brought it to Kasper while I was visiting him.

Kasper read it aloud:

TWO POSSIBILITIES PRESENT THEMSELVES. ONE, THE ALIEN HAS THE ABILITY TO REDUCE ITSELF TO BASIC MATTER AND CAN INVADE A BODY BY REPLACING ITS ACTUAL MOLECULAR SUBSTANCE. SECOND POSSIBILITY, SYMBIOSIS.

"Symbiosis." Kasper toyed with the word.

"The dictionary defines it as, 'organisms living together whose union is advantageous to both,' " Rauen said. "Termites and the symbiotic organisms in their intestines would be a good example."

Kasper went through another of his moments of deep thought, then asked, apparently irrelevantly, "I understand you were the one who suggested — after the alien disappeared — that it be killed on sight?"

"I did." Rauen was instantly defensive. A flush of blood in his cheeks matched their color to his red hair. I saw that by now he thoroughly disapproved of Kasper. "You should recognize the potential danger here," he said. "Undoubtedly the creature has some means of reproduction. Probably amoebalike. Such a creature, if it escaped, could spread over the world and, being hostile, could cause any amount of mischief. I decided to take no chances." He paused. "You are aware, I presume, that it has already killed five men?"

"It was potentially dangerous, yes," Kasper admitted. "But after you'd taken the necessary precautions to prevent it escaping, shouldn't you then have tried to capture rather than destroy it? It might have killed as a direct result of your order — because it was menaced, or in its efforts to survive, and not because it was hostile."

"If it wasn't hostile, why did it disappear?" Rauen countered.

"A strange environment is always fearsome," Kasper said, then smiled self-consciously. "To quote a line I once read somewhere," he added. He too was a big man, but dark, less excitable and more introspective than Rauen.

"You are a philosopher also?" Rauen asked with courtesy.

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Kasper's smile widened into mild embarrassment. "From the computer's suggestions," he changed the subject, "I'd guess that our alien is actually a symbiotic organism. But I would add this: It is not a reasoning organism. Its actions are all instinctive. It would experience emotions only as they are reflected by its host. And respond to those emotions as a worm, say, or other lower organism responds to stimuli."

"You saw the pictures," Rauen demurred impatiently. "It was a manlike creature, more or less."

"That manlike creature might have been only a carrier. Remember the computer's first suggestion? We thought it took the shape of a dog, and later that of a human. More likely it invaded the dog, and later a human. Probably in an instinctive urge to seek a host with highest intelligence."

This stopped Rauen, but only momentarily. "If that's true, one of us could be the carrier."

"Very probably."

"Then your job is merely to find which one of us it is."

"I already know."

"Who?" This time Rauen could not conceal being startled.

"That I'll keep until later," Kasper said.

Rauen refused to be badgered into questioning further. "My congratulations." He gave a sardonic half bow and left abruptly.

This goading of Rauen was the act of a small man. I rose to leave also.

"Charles," Kasper stopped me.

I paused and looked at him inquiringly.

"This isn't what it seems to be. Take my word for it. And do me a favor. See — discreetly — that word of my knowledge gets out. Please."

I did as he asked. Even though I had no idea why he wanted it.

Inadvertently I was in on the next act of the drama. I was unable to sleep that night and stepped into the corridor for a short walk. Thirty feet ahead of me I saw the cameraman, Leo Scanlon, just about to enter one of the other sleeping rooms. I came wide awake.

He was entering Kasper's room!

I bounded swiftly forward, reaching Kasper's door in time to see Scanlon, by the light from the hall, bending over Kasper's bed. Even as I shouted a warning there was a scuffling and writhing of bed blankets, and both men crashed to the floor.

For a moment I stood trying to make out who was who in the semidarkness. The intertwined figures struggled to their feet, and I could make out Scanlon with his hands clocked about Kasper's

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throat, slowly bending his head back.

I sprang at Scanlon and grabbed him about the shoulders. He swung one arm against my chest and knocked me against the bedroom wall. I felt something snap and knew my own arm had been broken. I would be little more help here.

However, through pain-filmed eyes I saw that I had given Kasper a fleeting respite that he was using to good advantage. When Scanlon released the hand on his throat Kasper tucked his chin down against his chest, and in the same twisting movement drove his fist into the pit of Scanlon's stomach.

Scanlon dropped like a bull receiving a dagger behind the horns — and the battle was over.

Kasper's trap — I recognized it as such now — had worked.

That morning I visited the cell block where they had put Scanlon. I was refused admission by guards armed with flame throwers. Someone had recalled how the alien had been killed in the spaceship, but still not died. They were playing safe now.

Kasper emerged from Scanlon's cell block. "How is he?" I asked, turning to match strides with him as he walked.

"Quiet. Apathetic almost," Kasper answered. "A strange thing though. He remembers nothing of what happened. He has no idea yet that the symbiote is inside him."

"Could he be faking?"

"I wondered about that also, but a lie detector indicated otherwise."

We met Carole Schoppert. "How is he?" she repeated my earlier question.

"As well as can be expected."

As they talked I reached into my shirt pocket for a cigarette. The sling on my broken arm made the simple movement awkward, and the package slipped from my grasp. Carole caught it in mid-air with a sure swift dart of one hand.

She seemed to regard the act with no significance, but Kasper, I saw, was looking at her almost wide-eyed. He took her arm. "I would like to speak to you, Miss Schoppert."

That night Kasper and Carole left the base. They were going to be married, they announced.

The suddenness of it caught us by surprise. I had been busy during the day and seen them only once after the morning meeting. I had stopped at the lunch room in the bowling alley for a sandwich and coffee and seen Kasper and Carole there bowling.

Carole was smiling and saying

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something to Kasper in a teasing manner. Her smile always astounded me with the way it transformed her personality. In repose she was a sophisticated, almost elegant lady. When she smiled — her front teeth were slightly parted — she was a young, delighted girl.

She was a much-alive individual, I reflected, the kind who evidently enjoyed being a woman. A man's woman, my thoughts wandered on, and I wondered abstractedly if I was in love with her.

Carole saw me watching them. "I've beaten him every game," she called happily.

I strolled over. "My low game was two hundred twenty-six," Carole greeted me. "I've never bowled over two hundred before."

Kasper joined her in good-natured badinage, but he seemed less pleased than Carole. I left a short while later.

That evening I heard they were to be married.

Carole kissed me good-by. A lingering, moist-lipped bussing that raised my blood temperature. I would have been flattered, except that nearly everyone who had come to see them off received much the same. I felt vaguely disquieted. Carole was a warm-blooded woman, but such enthusiasm bordered on bad taste. Which was not like her.

The next morning near pandemonium broke out on the base.

I met Rauen coming from the laboratories. "Damn him. Damn him," he was muttering.

"What's the trouble?" I asked.

He motioned brusquely for me to come along. I had to stretch my legs to keep up with him.

In his office Rauen put in an impatient call to the State Department. As he talked I learned quickly the reason for my disquiet earlier. My mind seemed divided into two parts as I listened to the conversation; one part taking in what was being said, the other contemplating with an almost aghast disbelief the implications of what I was hearing.

"Could be a hundred, or a thousand, people infected by this time," the first portion of my mind was registering disconnected words and phrases as Rauen talked. "Two means of transmission . . . a bodily takeover, such as Scanlon's . . . infection by body fluid transmission . . . a simple handshake . . . or a kiss."

A kiss! The ground beneath my feet seemed to move a bit.

Carole had done it to dozens of us. To me.

To me!

All very probably under Kasper's direction and with his connivance. I had the sick realization that it was already too late

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to repair the disaster. By now Carole and Kasper, with deliberate malice, had probably infected many others. With a kiss, or a moist handshake. And each victim became a carrier. To check the spread of the contagion would be impossible. Kasper would pass into history — if mankind still had a future — as the world's most infamous traitor.

"You what?" I was brought back from my grim reflections by the change in Rauen's tone. After a minute he hung up and turned toward me. "They've succeeded in translating some writing they found in the spaceship," he said quietly. "A man is on the way now to give us what they found."

The man from the Capitol was tall and stooped, with horn-rimmed glasses and a flat-toned voice. "The translation became a simple matter," he said, "once we discovered a paper that I can best describe as a 'Rosetta stone,' prepared by the alien authorities to aid us. I'll read you a bit from the beginning."

His gaze went to the paper on the desk in front of him:

"Greetings. May you receive our heroic envoy with the deep compassion and affection with which we bid him farewell. His journey will encompass many long, long years. So long that he would not live to complete the journey, except that he will keep his body in semi-catatonic stasis through the use of drugs. Our souls' proud sorrow will accompany him as we envision his long periods of sedation, interrupted only by brief intervals of half-conscious reality, as he performs his duties, each time seeing himself a bit older. Observing his muscles growing flaccid, his tissues losing their elasticity, perhaps even his mind becoming senile. We can only hope he will retain sufficient mental vitality to manage a safe entry onto your world. Though even that should not matter greatly: His remaining time of life will be short — and even in death he should be able to complete his momentous mission. We pray for him, and he will remain forever in our hearts."

The Government man looked up. "Here we have a quotation much like, 'Greater love has no man than that he give his life for another.'"

He removed his glasses. "As you have observed, they favor a quite flowery discourse. The next portion covers considerable space. To summarize, it seems they discovered that our world possesses intelligent life, probably through the use of instruments more sophisticated than our own, but we were too far away for them to communicate."

He returned his glasses to read-

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ing position. "Here are the last few paragraphs," he said.

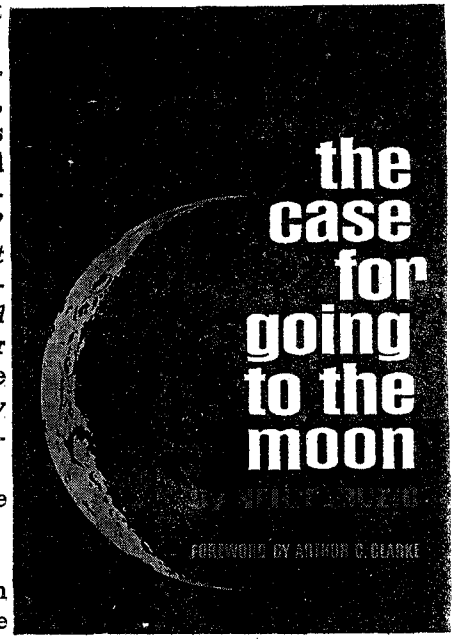
"*Many eorns ago another benevolent race, on another world, learned of our existence. To us they sent the Messos.*" He paused again. "The *Messos* is the organism we think of as a symbiote," he explained. He continued: "*It cured our illnesses and aberrations, mental and physical, and thus initiated the splendor of our present culture. In gratitude we resolved to do as much for any intelligent races we might discover.*

"*And so, from us to you, the gift.*

"*The Messos!*"

The Government man's cough as he finished reading was the only sound in the room for several minutes. From the side of my eye I caught the motion of the man next to me flexing one hand slowly, as he searched tentatively, wonderingly, for the gift within him.

— CHARLES V. DE VET



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Galaxy Bookshelf

by ALGIS BUDRYS

Brief Essay:

It's been two and a half years since I began expatiating on books in terms of money. The idea has been to serve primarily not as a critic, or even a reviewer, but as an investment counsellor. It would be hard to recommend investments in stories — especially in bad but nevertheless rewarding ones — without assuming some of the language of the critic. It would be impossible to do it without occasionally sounding like a reviewer. Consequently, I've been mistaken for both of the latter many times, and very rarely recognized as the former.

Okay. *Mutatis mutandis,* like they say, which means if you can't lick 'em, that's your clue you'll join 'em. Over the next few columns, you will see some changes made. Zip your pockets, unstick your holster flaps, and let's go ravaging.

Poul Anderson's *Ensign Flandry,* Chilton ($4.50), is a peculiar book, full of good things, but a little shallow, and annoying if one wants it to be about the young Dominic Flandry.

I think Anderson is now finding out what it feels like to be a C. S. Forester. Horatio Hornblower, you may recall, actually began as the captain of H.M.S. frigate *Lydia,* but the press of popularity produced such subsequent works as *Lieutenant Hornblower, Midshipman Hornblower,* and, for all God knows, an aborted draft of *Baby Hornblower and the Puddle Pirates.*

Ensign Dominic Flandry is here made a great deal like Midshipman Hornblower, which is bad to begin with. Hornblower was obviously a callow and tormented little boy until very late in life. Dominic Flandry could have sprung from no union less than that of Diana the Huntress

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and David Niven, with all the early personality advantages one would derive from such a fortune.

Which is to say that *this* young Dominic Flandry, who fights the Seatrolls and the Merseians on behalf of the Terran Empire and the Tigeries of Starkad, must be some other Dominic Flandry, not the one whose adventures as a man full-grown were detailed in the two 1965 books, *Agent of the Terran Empire* and *Flandry of Terra.*

Once we accept that orientation, this is an enjoyable book; a, to coin a phrase, rattling good yarn of interstellar intrique, science, adventure, sex and compassion for the human condition — and for the non-human creatures who share that condition.

The plot does not require summarizing here, and would suffer from it; among the things that I particularly enjoyed in this book were all descriptions and narrative events having to do with the Tigeries; the description of life among the Seatrolls — to the point where I felt these were sadly skimpy — and the minor but important character of Dwyr the Hook. Among the things that shook me was Flandry's remark to Persis d'Io upon the occasion of their first liaison. It is the only trace in the entire volume of what the real young Dominic Flandry might have said, and later looked back on with rue.

Earthblood, the recent *If* serial by Keith Laumer and Rosel George Brown (Doubleday, $4.50) is a most amazing book.

First of all, it's a rather unlikely collaboration, until you stop to think of the precedent set by E. E. Smith and Lee Hawkins Garbey. Second, it reads more like a combined effort of Robert Heinlein and L. Ron Hubbard than anything else that ever walked the bookstores in the quiet hours of the night.

Consider the plot: A human embryo of mysterious origin is purchased by two outcast half-castes on a pauper world in the days well after the defeat of the Terran interstellar empire. Earth is a legend and space swarms with mutants and crossbreeds, the raggle-taggle of a hundred races loosely divided into Gooks — peoples with some scabrous claim to human blood — and Geeks, those with none. The em bryo grows into Roan Cornay, the only pure-strain Terrie ever seen by any of the beings with which he comes in contact; a figure of such exotic freakishness that it's only a matter of time until he finds a place for himself in an interstellar zoo/carnival. Ever in search of his heritage and the legend of lost Terran gran-

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deur, he loves, befriends and loses scores of fascinating beings until finally he penetrates through space to old Earth, and there, as a result of his singleminded strength and the dream he arouses in the hearts of men, sets Earth back on the paths of glory. So far, we have Heinlein.

Consider now, the cast of characters: Stellaraire, the crossbred carnival dancer; sterile, beautiful, commercial. She, captivated by the resourceful, deadly, handsome, red-haired Roan, casts her lot with him, tends his wounds, teaches him what love is, is rescued by him from the foul clutches of slimy non-humans, and ultimately dies when the zoo ship is bombarded by the cutthroat Captain Henry Dread.

Consider Henry Dread, human spaceship commander, ostensible pirate and freebooter, actually Commander Dread of the Imperial Terran Navy.

Dread's mission is to forage and finance, and to recruit Terries wherever he can find them; this against the day when the I. T. N. can once more rise, and, coalescing from the scattered detachments left abandoned on the galactic rim five thousand years earlier, return to Sol. There it will break the Niss blockade which for fifty centuries has held Earth captive and thus created the universal stalemate.

Consider the stalemate, in which the other races and the remains of Man among the stars have found no common purpose and no peace. Instead, they brawl and struggle back and forth against each other, treating the entire galaxy approximately the same way that the natives of Marrakesch treat Marrakesch.

Consider Iron Robert, the silicoid being whom Roan and Stellaraire nurse from his gladiatorial combat with the fearsome chinazell, when the carnival owner and even Iron Robert himself were willing to let Iron Robert lie in the dust and die.

Consider Iron Robert's undying gratitude, and the manner in which ultimately he gives his life so that Roan may live, and escape Henry Dread's exploding spacecraft, after Roan has shot Commander Dread — who not too long ago had sworn in Roan as Lieutenant Cornay of the I. T. N.

And on, and on. Consider the faithful Askor and Sidis, the Gooks who follow Roan through all the incredible adventures along the long trail back to Earth and the degenerate aristocracy of Earth. Consider how they weep for each other when they are hurt. Consider the devotion of Sidis, who lops off his own left hand for Roan's sake. If that

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isn't Hubbard, who is it? Laumer? Rosie Brown?

Here is, friends, an Epic of the Spaceways if you ever saw one; a story to make one dream of *Planet Stories*.

I used to think pastiche was something that occurred when a librarian sneezed. But, boys, this is the real stuff — the good old stuff — and I marvel, and I'm grateful, that someone has found the recipe for it again. Go get 'em, gang! Encore! More gore!

Less and less do I pick up each new Avram Davidson book with the hope that it will be even better than his *Masters of The Maze*. His latest, *The Enemy of My Enemy*, (Berkley), begins well; in that beginning, it sounds like yet another excellent example of adventure writing. Jerred Northi, thief of Pemath Old Port, is a grade A swinger, a Francois Villon.

So what happens? So he gets a new body, and goes to live among the upper classes, where he becomes Hamlet. Not Bill Shakespeare, roisterer of the Mermaid, master craftsman qualified to look the whole world in the eye and well aware of it, but Hamlet. And when Ophelia dies offstage, he goes "Aw, shucks — well, I should have known nothing good would come of it, sigh."

Hooey. During the last half of this book, which begins to read like first draft very soon after the ten thousand words that brought in the contract, Davidson is not only letting many crucial events occur offstage, he is also jumping completely over obligatory scenes which he apparently found too boring to write. Ultimately, he even stops weaving words and background matter with his normally insuperable skill. Empty work by such as Davidson is at least as grindingly dull as work by empty people, and it grieves the heart sore.

I don't like reaching that kind of conclusion. Even less do I like writing it down. But there are some writers whose bad books you will read all the way through, because their names are associated with so much admiration and remembered pleasure. Then when you talk about the experience, a certain kind of outrage at the fickle nature of the muse conditions your choice of words.

Clifford Simak, for another instance; re. *Why Call Them Back From Heaven?*, (Doubleday, $3.95).

Clifford Simak's stories like as not brought tears to my eyes in the days when I was a reader

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of sf — and cried from love rather than envy. After I began doing it for money, they often made me consider that I would never learn half of what this man knows about the short story. Now it's apparently time to realize that, except for the case of *Time and Again,* (which as *Time Quarry* did more to give this magazine a roaring start than some of the short stories that ran concurrent with its installments), Simak's strengths as a short story writer often expose weaknesses in what he does as a novelist.

It's only in a few scenes that this book lives. The plot — a simpleminded chase — occurs in a poorly-realized extrapolation of a world in which the object of power is the hundred million fatally injured people lying stored in frozen sleep. Despite this promising background, Simak has done nothing real; the corporation which has taken over the world, and is hunting the hero, uses it for an excuse. It acts like an overgrown advertising or insurance agency, like a monstrous overgrowth of the legal profession, or like any of the other corporate villains of any of a score of sf novels. A man on the inside of the power structure gets kicked out and hunted, for reasons he does not quite grasp, and despite his general belief in the mouth-noises the corporation makes to the world.

Only when his fugitive is in contact with the world most real to his writer — the Wisconsin/Minnesota countryside — is Simak writing anything. And he's not writing anything he hasn't written before. The rest of the time, while he's consciously at work on his novel, he's promulgating hooey, and not as well as some others can do by instinct.

Yes, Virginia, there *is* a double standard. When an established working sf writer produces a book, I do read it differently from the way I read something that's been brought in from "outside" — that is, originates from a byline I don't recognize either as a previous contributor to the sf magazines or as a former active fan. The reason I'm this way is because I think most readers of these pages are the same. (The *real* reason I'm this way is because I don't believe any outsider knows what to do with science fiction; most of them use it the way slobs eat spaghetti, cutting it into bite-size pieces).

The Scorpions by Robert Kelly, (Doubleday, $3.95), probably doesn't belong on Doubleday's science-fiction list at all, which is not to say it doesn't belong in this review column, be-

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cause it is science fiction. But it would have done much better on a major publisher's general list, where it would have been properly received as a specimen of the anti-novel of manners.

The science-fiction premise is kind of cute; a neurotic society woman partially convinces her manneristic society psychiatrist that there really is a race of ultraviolet people.

This assertion is backed up by a few bits of physical evidence: Mostly, a series of cryptically worded cards sent to the psychiatrist by something called the Order, culminating in a cryptic invitation to the Order's convention — make that, perhaps, confabulation — in Fort Lauderdale, Florida.

The world in which this very nearly unnamed psychiatrist lives is the superstitious modern world of the mobile rich. Kelly's portrait of what goes on in these minds — the quirky belief in astrology as a mystique, the immense storehouse of thumb-rule ways to behave, so fully packed as to make the smooth flow of performance seem almost instinctive — these, together with the speech and action patterns of this sort of person, are beautifully pictured.

If we consider that he is contributing to the general body of science fiction, then the most important thing Kelly is contributing is genuine goods in an area where we poor middle-class yahoos normally fail. Most science-fiction writers describe the very rich and those who service them exactly as if they'd been studying Lord Plushbottom in the Chicago *Tribune*.

This previous deficiency in the field is understandable. The very rich — the *born* very rich — know how to make themselves inaccessible, and how to act upon the world along their own channels. Furthermore, because they know this is the way the world really works, it's very easy for them, (and even more easy for those who in servicing them have grown *nouveau riche*, and *nouveau engage*), to suspect intelligent purpose from very skimpy patterns of clues indeed.

This atmosphere — this atmosphere of intrigue, excitement and resource-testing in an atmosphere of infinite resource — is the greatest charm of this book. Kelly, a career intellectual publishing his first novel, has done an immensely skillful job of superimposing the possible intrigues and potential menaces of the "Scorpion people" on this real and rather rare background. Because his protagonist sees patterns where you and I would see nearly nothing, and acts purposefully where you and I would

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still be wondering what the hell was coming off — if anything at all were coming off — we are carried along very nicely, and subtly, while Kelly piles into this wordage a great deal of arcane jazz about astrology, memorized scholarship and all those other articles of *virtu*. Scattered throughout the book are tags of philosophical expression in a variety of languages, which all bear on the protagonist's problem as he wends his way southward in Kelvin, an automatic Rolls Royce offering all the comforts of a womb that's been to finishing school.

This pilgrimage becomes reminiscent of the compulsive wonderings of J. G. Ballard's characters, just as the string of clues whereby the hero is ultimately attracted to his destruction, at the hands of the *ur*-teenybod, is extremely reminiscent of Father Brown (the jacket copy says Sherlock Holmes, but Kelly is is much smarter than to use that).

We never do find out for sure just what it is that the protagonist finally finds as he pursues his journey to its end, at the accelerating cost of his most precious self-protective mannerisms. He is definitely being lured, stripped and at last rebuilt — perhaps being obliterated.

Whether he is being lured by ultraviolet people or the perfectly visible and rational inhabitants of the unknown island, Eos, we don't know. But this book does describe, in cunning detail, how a race of ultrahuman beings could prey with complete effectiveness on the only kind of human being effectively invulnerable to the gross forms of attack.

Oversimplifying it, the hero's impregnability rests on the schooling he has given his self. Unfortunately, the closer he gets to the end of the book, the less of his personality he has, and so, seemingly, the less the writer's ability to continue wrapping his reader in the very stuff of the only dream of Heaven and hell that you and I can really believe in.

— ALGIS BUDRYS

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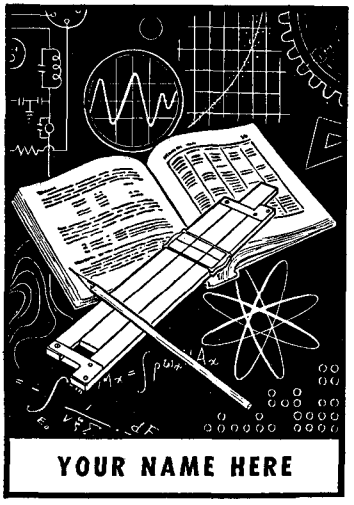

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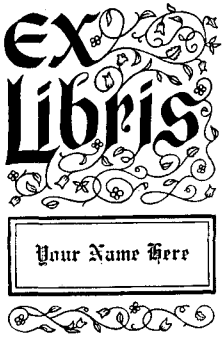

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